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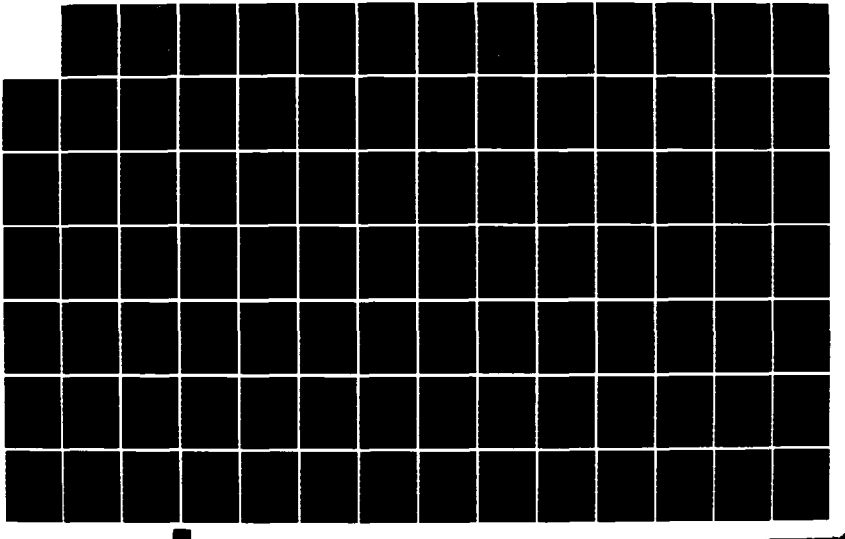

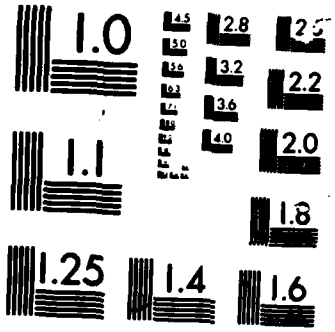

MICROCOPY RESOLUTION TEST CHART

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November 1985

US Army Corps of Engineers
Cold Regions Research & Engineering Laboratory

A description of the building materials data base for New Haven, Connecticut

Carolyn J. Merry and Perry J. LaPotin

Prepared for
U.S. ENVIRONMENTAL PROTECTION AGENCY

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A building material sampling program for the New Haven, Connecticut, region was conducted in March and April of 1984 to examine the types and amounts of building surface materials exposed to acid deposition. A stratified, systematic, unaligned random sampling approach was used to generate sample points across the five sampling frame areas. A minimum of 107 sample points was examined per sampling frame to yield a total sample size of 576 points. Building sizes, surface materials, roof characteristics, roof-mounted apparatus, chimneys, gutters, downspouts, fences and miscellaneous outdoor accessories were recorded. This report provides an initial summary of the data collected. Sample sizes indicate that additional sampling is required to produce the desired 70 sites (with buildings) per frame.

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PREFACE

This report was prepared by Carolyn J. Merry, Geologist, Earth Sciences Branch, Research Division, U.S. Army Cold Regions Research and Engineering Laboratory, and Perry J. LaPotin, Research Engineer, Thayer School of Engineering, Dartmouth College, Hanover, New Hampshire.

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The authors extend their appreciation to Dr. Harlan McKim, who was a co-investigator on this project, for his support and helpful technical discussions on the study; to Nancy Humiston, William Porter and 1st Lt. Jeffrey Songco for assistance in gathering the building inventory data in New Haven; to Nancy Humiston and Celia Nawawi for assistance in digitizing the sampling frame boundaries; to Doris French for typing the data into the computer; to Celia Nawawi and Sonya Travis for coding the data from the worksheets and editing the New Haven data base; and to Professors Thomas Adler and Colin High (Dartmouth College) for their technical reviews of this report.

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A DESCRIPTION OF THE BUILDING MATERIALS DATA BASE FOR NEW HAVEN, CONNECTICUT

Carolyn J. Merry and Perry J. LaPotin

INTRODUCTION

The Interagency Task Force on Acid Precipitation manages the National Acid Precipitation Assessment Program (NAPAP). There are ten Task Groups, one for each of the nine research areas in the national program and one for international activities (Table 1). The goal of NAPAP is to develop and improve a data base that will help us understand the causes and effects of acid deposition and how it can be effectively managed. Our work on the acid rain program has been with the Environmental Protection Agency in support of Task Group G, which looks at the Effects on Building Materials and Cultural Resources.

New Haven, Connecticut, was selected by Task Group G in December 1983 as the first New England test site (Fig. 1) to obtain ground truth data on building surface materials. Data were to be collected as part of an on-going effort to examine the type and magnitude of building materials exposed to acid deposition in New England. Our data bases were to build upon prior data bases (St. Louis, Missouri; Baltimore, Maryland; Boston, Massachusetts) collected in support of the EPA Acid Precipitation Assessment Program (McFadden and Koontz 1980, TRC Consultants, Inc. 1983). Once sensitive building materials are located and their distribution understood within a few representative locations, the information will then be extrapolated and applied to other cities in the United States (Merry and McKim 1984).

This paper presents the data collected for New Haven, Connecticut. They will be presented as distribution summaries in the form of frequency tables, illustrative histograms and bar charts. In future reports the data will be analyzed to determine the suitability of various indicators in predicting building materials distribution.

Table 1. The ten Task Groups within the National Acid Precipitation Assessment Program (after Interagency Task Force on Acid Precipitation 1984).

Task group		Coordinating agency
A	Natural sources	NOAA
B	Man-made sources	DOE
C	Atmospheric processes	NOAA
D	Deposition monitoring	DOI
E	Aquatic effects	EPA
F	Terrestrial effects	USDA
G	Effects on materials and cultural resources	DOI
H	Control technologies	EPA
I	Assessments	EPA
J	International activities	DOS

NOAA - National Oceanic and Atmospheric Administration
DOE - Department of Energy
DOI - Department of Interior
EPA - Environmental Protection Agency
USDA - United States Department of Agriculture
DOS - Department of State

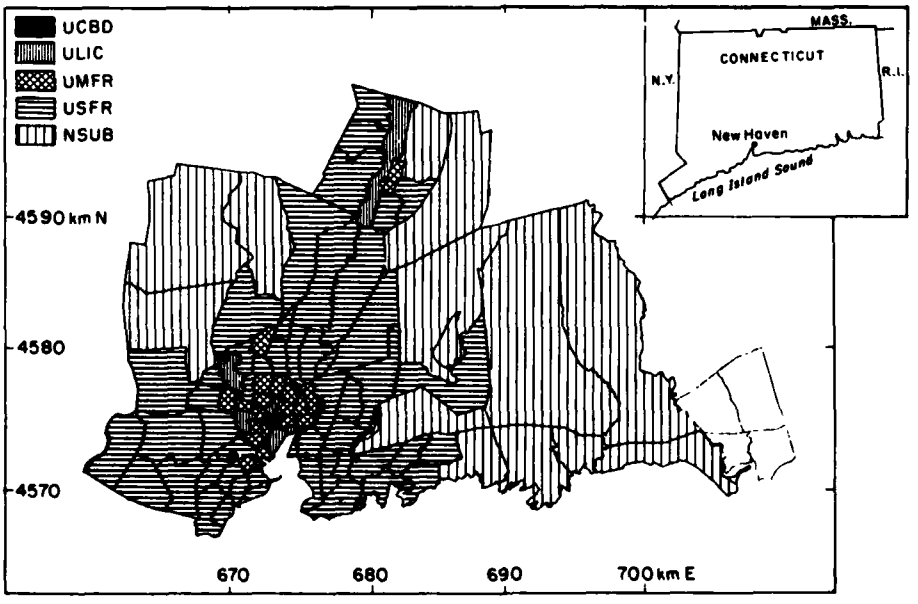


Figure 1. Sampling frames for the New Haven, Connecticut, area (after Rosenfield 1984).

DESIGN OF THE FIELD SAMPLING PROGRAM

Sampling frame definition

The city of New Haven, Connecticut, was subdivided into the sampling frames of Urban Central Business District (UCBD), Urban Livelihood, Industrial-Commercial (ULIC), Urban Multi-Family Residential (UMFR), Urban Single-Family Residential (USFR) and Nonurban Suburbanizing (NSUB) (Fig. 1). Each sampling frame consists of a number of census tracts that have a

Table 2. The U.S. Geological Survey land use and land cover categories (after Anderson et al. 1976 and Rosenfield 1984).

Collapsed categories used in this study	Level I	Level II
Built residential	1 Urban or builtup land	11 Residential
Built nonresidential		12 Commercial and services
		13 Industrial
		14 Transportation, communications and utilities
		15 Industrial and commercial complexes
		16 Mixed urban or builtup land
		17 Other urban or builtup land
	2 Agricultural land	
Open land, with buildings		21 Cropland and pasture
		22 Orchards, groves, vineyards, nurseries and ornamental horticultural areas
		23 Confined feeding operations
		24 Other agricultural land
	3 Rangeland	
		31 Herbaceous rangeland
Open land, without buildings		32 Shrub and brush rangeland
		33 Mixed rangeland
	4 Forest land	
		41 Deciduous forest land
		42 Evergreen forest land
		43 Mixed forest land
Omitted from analysis	5 Water	
		51 Streams and canals
		52 Lakes
		53 Reservoirs
		54 Bays and estuaries
Open land, without buildings	6 Wetland	
		61 Forested wetland
		62 Nonforested wetland
	7 Barren land	
		71 Dry salt flats
		72 Beaches
		73 Sandy areas other than beaches
		74 Bare exposed rocks
		75 Strip mines, quarries, and gravel pits
		76 Transitional areas
		77 Mixed barren land

certain commonality, based on population density, single-unit dwellings and land use (Rosenfield 1984). Two 1970 census variables were used: population density in persons per square kilometre and percent of dwelling units in one-unit structures. And three land use variables (circa 1973) were used: percent of area with residential buildings, percent of area with nonresidential buildings and percent of area that is open land (Table 2). The water surface area within a tract was excluded from consideration.

The census tracts in New Haven (Fig. 2) were clustered on the basis of the above census and land use variables using a multivariable clustering technique in the Statistical Analysis System (SAS) (Rosenfield 1984). The U.S.G.S. generated ten clusters and grouped them into the five sampling frames shown in Figure 1.

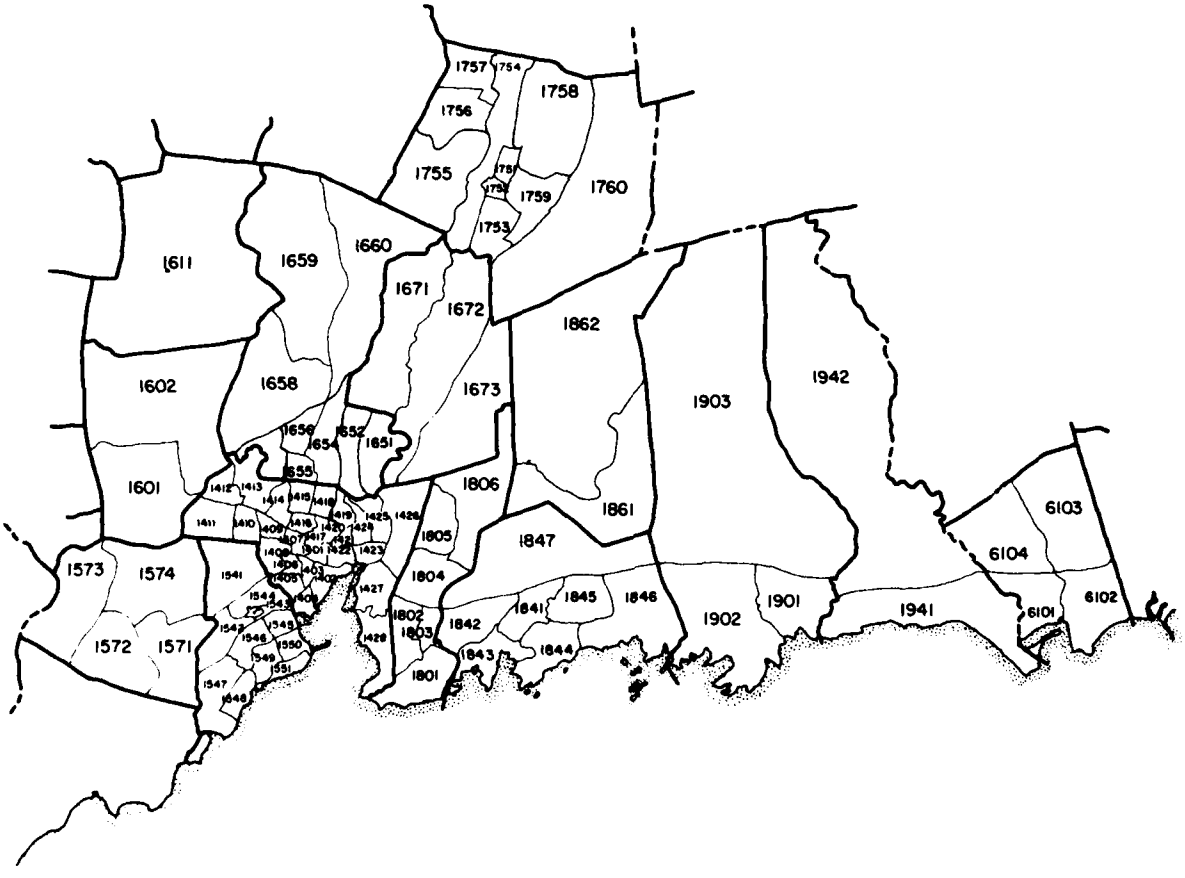


Figure 2. Census tracts for the New Haven, Connecticut, area (after U.S. Census Bureau 1970).

Selection of sample points

We needed to sample 70 buildings in each sampling frame, a number calculated previously from the Revere, Massachusetts, data base of buildings (Merry and LaPotin 1985) by multiplying the minimum sample size determined from the cumulative multi-nomial distribution (30) by the design effect (2.34) (see Rosenfield 1984). To ensure at least 70 "hits" per sampling frame, we selected a minimum of 107 sample points for each sampling frame (thus allowing for no building being found in 35% of the sampled locations).

We digitized the irregular polygon outlines of the census tracts that composed each of the sampling frames from U.S. Geological Survey topographic maps. The polygon outlines were run through a computer program that determined the minimum and maximum x,y boundary points (in Universal Transverse Mercator [UTM] coordinates) of the smallest rectangle that could contain the polygon. We determined the area of the polygon and the area of the minimum-sized rectangle that contained the polygon. By knowing the ratio of the polygon area to the rectangle area, we could generate the appropriate number of points so that at least 107 points fell within each of the polygons that made up the total sampling frame.

The sample points were generated using a stratified, systematic, unaligned random sampling procedure (Fig. 3 and Appendix A). A similar sampling procedure (stratified, systematic, unaligned) was used previously by the U.S. Geological Survey for selecting samples for use in testing the

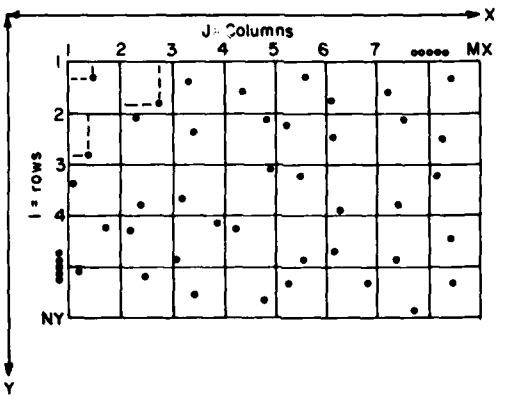


Figure 3. Schematic of stratified, systematic, unaligned random sampling scheme (after Rosenfield 1984).

Table 3. Number of sample points for the New Haven, Connecticut, building materials inventory.

Sampling frame	With buildings	Empty	Total
UCBD	90 (84%)	17 (16%)	107 (100%)
ULIC	53 (45%)	65 (55%)	118 (100%)
UMFR	66 (60%)	45 (40%)	111 (100%)
USFR	35 (31%)	78 (69%)	113 (100%)
NSUB	41 (32%)	86 (68%)	127 (100%)
Total	285 (49%)	291 (51%)	576 (100%)

accuracy of the land use and land cover maps produced under the National Land Use and Land Cover Mapping Program (Ling and Rosenfield 1980). We modified the computer program to randomize the selection of points within the unaligned grid. Table 3 shows the total number of points that were generated for the New Haven field survey program. The UTM coordinates for each sample point are shown in Appendix B.

Each sample point had a corresponding "footprint" or a given spatial area on the ground that had to be sampled in the field. To determine the footprint size for each sampling frame, black and white aerial photography of New Haven (scale 1:12,000) was examined to determine the density of buildings in each of the five sampling frames. We wanted to make the footprint size large enough to capture at least one building, but small enough so that the field sampling program would be manageable.

A 100 by 100 ft (30.5 by 30.5 m) grid was passed over selected portions of the photography for each of the sampling frames to determine the likelihood of encountering a building. These density values were then used in a simple PASCAL program to determine the footprint size for each sampling frame (Appendix A). The footprint areas were then constrained to sample approximately 30% of the total area within the UCBD frame.* The final footprint sizes are presented in Table 4.

*Given that 107 samples were required within the UCBD, an "alpha" or proportionality coefficient was obtained. The proportionality value was then linearly applied to the remaining four sampling frames to determine footprint size as a function of frame density.

Table 4. Footprint sizes for the New Haven, Connecticut, sampling frames.

Sampling frame	Footprint size (ft)	(m)
UCBD	139	42
ULIC	144	44
UMFR	90	27
USFR	87	26
NSUB	364	111

Field survey

The field program began in March 1984 and was completed within two months by two-person teams. One person normally recorded the dimensions and material types of the building; the other person took photographs of the building and used an optical rangefinder to determine building height.

The building worksheet was developed by a committee composed of representatives from CRREL, the EPA's Environmental Sciences Research Laboratory at Research Triangle Park and the U.S. Bureau of Standards. The worksheet form was designed to provide information on: the spatial location of the building in UTM coordinates; characteristics of the surrounding terrain in terms of census tract, land use type and sampling frame; dimensions and type of building; lot size dimensions; material distribution percentages in the foundation, first story, and all above stories; and the surface area and material types for the roof, roof-mounted apparatus (vents, flues, stacks, skylights and flashing), chimneys, rain gutters, downspouts and fences, and outdoor accessories for each structure. The final worksheet used in the New Haven field survey is shown in Appendix B.

DATA DESCRIPTION

The data from the building worksheets were coded using the format described in Appendix B, Building Worksheet section. Each sample point was recorded on an individual data sheet during the survey. If the sample point was empty, the sections that concerned the description of the

building were coded as zeros. If there was more than one building per sample point, a separate worksheet was completed for every building. These worksheets were used to develop a composite building, which represented the average distribution of materials found for all the buildings in the footprint.* The UTM coordinates for each point are shown in Appendix B. The procedures used to check the data are also outlined in Appendix B. They were analyzed using the Statistical Package for the Social Sciences (SPSS) software on a VAX-11/785 minicomputer (see Nie et al. 1975).

In Appendix C is a description of the variables assigned to the New Haven field data. The frequency runs for the variables are also in Appendix C. Page formats are organized so that for each variable, numeric summaries are provided first (for example, the labels for each value with frequency of occurrence and percent of the distribution), followed by graphic presentation (histogram or bar chart), and ending with statistical summaries (for example, mean, mode, skewness, kurtosis). The sample size is presented at the bottom of each summary section, along with the number of missing cases (or observations). Each observation corresponds to a footprint sample point for the five sampling frames in New Haven.

Variables with continuous distributions or discrete variables with large numeric diversity are graphically presented within a histogram. Variables with small numbers of categories (for example, sampling frame and land use) are presented by horizontal bar charts with the sample sizes shown within the bar areas. Summary statistics are included to describe the variable's distribution (for example, skewness and kurtosis).

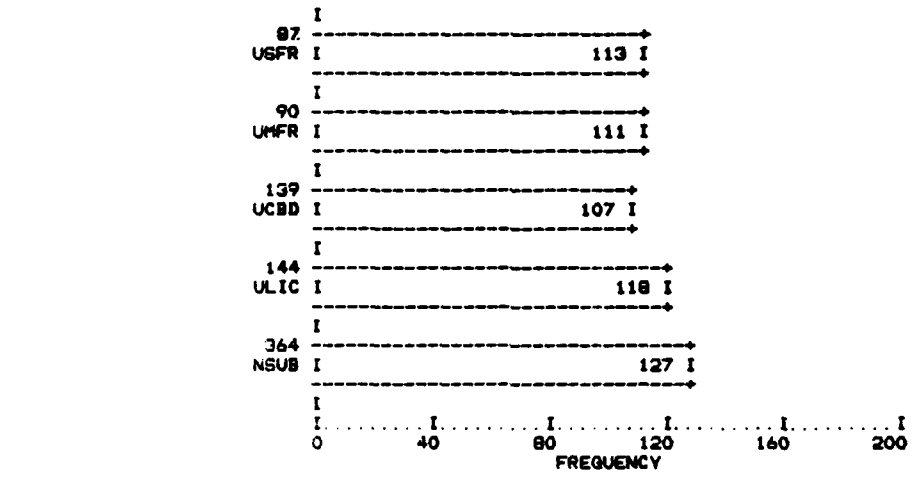
Certain variables act as descriptors of building materials' exposure and distribution, for example, exposed walls in footprint (EWIF) and average wall height (HT). Their corresponding frequency runs are tabulated using the sample of size 285, the number of footprints where buildings were observed (Table 3). All other variables, not related to the building description, use the 576 total cases.

We did not achieve the minimum of 70 structures per sampling frame in New Haven (Table 3). For future sampling programs, more than 107 sample

*Building averages were weighted according to the proportion of the structure contained within the footprint. Therefore, buildings that covered the majority of the footprint were weighted to account for their predominance.

FOOT FOOTPRINT SIZE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
USFR	87	113	19.6	19.6	19.6
UMFR	90	111	19.3	19.3	38.9
UCBD	139	107	18.6	18.6	57.5
ULIC	144	118	20.5	20.5	78.0
NSUB	364	127	22.0	22.0	100.0
	TOTAL	576	100.0	100.0	



MEAN	169.990	STD ERR	4.413	MEDIAN	139.000
MODE	364.000	STD DEV	105.922	VARIANCE	11219.520
KURTOSIS	-.363	S E KURT	1.997	SKEWNESS	1.176
S E SKEW	.102	RANGE	277.000	MINIMUM	87.000
MAXIMUM	364.000	SUM	97914.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	87.000	25.00	90.000	33.30	90.000
50.00	139.000	66.70	144.000	75.00	144.000
90.00	364.000				

VALID CASES 576 MISSING CASES 0

Figure 4. Sample page of frequency analysis data.

points per frame would be needed. Another way to achieve the minimum, recommended by the U.S. Geological Survey, is to mask out all land areas in which the likelihood of encountering a building would be low before selecting the points. These areas would include land use types greater than 24 (see Table 2), which include rangeland, forest land, water, wetlands and barren land.

In Appendix C the column headings marked VALUE represent the actual observed value for the variable. FREQUENCY represents the number of cases of the individual values for the variable. Percent (PCT) and cumulative percent (CUM PCT) represent the percent of the total falling within the

specified category and the running cumulative percent, respectively; the cumulative percent for the last category is always 100. Figure 4 is an example of how the frequency runs are presented in Appendix C.

A more in-depth discussion of the summary statistics provided can be found in most elementary applied statistics texts (e.g. Snedecor and Cochran 1980).

DISCUSSION

The frequencies provided in Appendix C are separated into six sections.

In the Major Classification Variables section, the variables include the distribution of footprint size (FOOT), land use designation (LU), sampling frame (SFRAME), sample point number (SPOINT) and census tract (TRACT) for the 576 total observations.

The data for the variable FOOT are also shown in Tables 3 and 4. As noted, there are 107 sample points (footprints) in the UCBD sampling frame; the footprint size is 139 ft (42 m). The sample points were found to be equally divided between all five sampling frames, with approximately 20% of the sample points falling in each frame. The footprint sizes for each point within a sampling frame were calculated using the algorithm provided in Appendix A.

The land use classification for each sample point (LU) was based on digital land use information from the Geographic Information Retrieval and Analysis System (GIRAS) (Mitchell et al. 1977). The aerial photography source materials used in GIRAS are dated from 1972-74 (Loelkes 1977). The minimum mapping unit for the land cover map is 10 acres (0.04 sq km) for the level II categories 11-17, 23-24, 51-54, 75 and urban occurrences of 76 (see Table 2). The minimum mapping unit for the remaining level II categories was 40 acres (0.16 sq km).

When we examine land use designations, nearly 70% of the sampled footprints fall within the residential (24.0%), mixed urban or builtup land (22.4%) and deciduous forest (22.9%) categories. Cumulative percents indicate that 67.2% of the sampled structures fall within the level I category of urban or builtup land. The remaining 32.8% of the sampled footprints fall within the level I categories of agriculture, forest, water, wetlands and barren land, indicating empty footprints.

The sample point number (SPOINT) represents the sequence number of the sampled footprint within a given sampling frame. In the variable SFRAME, the minimum number of sampled points for a given subcategory is 107, corresponding to the UCBD class. The frequency table for SFRAME displays the sampled distribution and illustrates that all sampling frames contain the minimum of 107 points (four frames contain 111 points and above, three contain 113 and above, two contain 118 and above, and the last frame contains 127 sample points).

The census tract (TRACT) variable represents the distribution of sampled footprints within a given tract. The majority of sample points (19%) occur in census tract 1 (census tract 1401, see Fig. 2 and Appendix C, Description of Variables section) corresponding to the UCBD sampling frame. Tract 7 (census tract 1754), which is part of the ULIC sampling frame, contains 10% of the sample points. The census tracts with 20 observations and above (tracts 1401, 1413, 1417, 1611, 1754, 1847 and 1903) have 283 of the possible 576 sample locations (49%). The remaining 51% are distributed uniformly, ranging from 0 to 5%, across the remaining census tracts.

The Census Tract Data section includes the available census tract information from the U.S. Bureau of Census and the U.S. Geological Survey GIRAS data base that corresponds to the 91 census tracts in the New Haven area. There were eight variables, based on the 1970 census, coded into our New Haven data base: the total population in the census tract (POP), the total number of housing (dwelling) units in a census tract (DU), the number of dwelling units in one-unit structures (U1), the total land area of the census tract (ALAND), the built residential land use (ABR), the built nonresidential land use (ABNR), the open land containing buildings (AOB) and the open land containing no buildings (AO). The land area values are displayed in millions of square feet.

The built residential category includes the level II urban category, residential (see Table 2). The built nonresidential category includes the urban categories of commercial and services, industrial, transportation, communications and utilities, industrial and commercial complexes, and the mixed urban or builtup land. The open land with buildings category includes the other urban or builtup land, and the entire level I agricultural, rangeland and forest land categories. The open without buildings includes the level I categories of wetlands and barren land.

The tract population (POP) variable shows a minimum value of 273 persons. A significant portion of the cases (19%) corresponded to census tract 1401 for the UCBD sampling frame. The average population per tract is 4092 persons. The range of population values found within the New Haven tracts vary from 273 to over 9100 people per census tract.

The total dwelling units (DU) in a given tract varies from 85 to over 3800. The average number of units is 1325, however; and 19% of the samples fall at 509 dwelling units, which again corresponded to the UCBD sampling frame (which has only one census tract in it).

The average number of dwelling units in one-unit structures (U1) is 689. The range of dwelling units is large, ranging from 17 to over 2300 units.

The remainder of the census tract variables in this section represent the millions of square feet of land within the built residential (ABR), built nonresidential (ABNR), open land with buildings (AOB), open land without buildings (AO), and the total land coverage (ALAND) (U.S. Bureau of Census 1970). In comparing the means of the above five variables, we find that the majority of the land in New Haven is open with buildings (AOB). Overall, we found the least amount of land in the category of open land without buildings (AO), averaging 5.4×10^6 ft^2. The built residential category occurs slightly more often than the built nonresidential category (31.5 vs 11.6×10^6 ft^2 observed).

In the General Building Description section, frequencies are tabulated using the 285 cases where buildings were observed from the total 576 points sampled. Variables include the approximate age of the structure (AGE), exposed walls in the footprint (EWIF), average wall height (HT), lot size (LOT) and the building type (TYPE).

The first variable, AGE, represents the approximate age of the structure using the year 1900 as a base. For example, 1984 is represented as 84, 1900 as 0, and 1801 as -99. Only 8% of the observed structures were built prior to 1900. The majority of the structures observed were built from 1950 to 1984 (63%). The range of values shows a spread of 183 years in building age, a mean construction date of 1944 and a median construction date of 1950. The upper third of the building age distribution begins in 1965 and ends in 1984, the year representing the newest structure.

The exposed walls in footprint (EWIF) is the perimeter (feet) of the building, or buildings, in the footprint. EWIF is recorded to ultimately calculate the exposure of building wall surfaces observed within a sampled footprint. Of the 285 structures sighted, 67% had 232 ft or less of exposed wall surface. The histogram indicates that the distribution is skewed to the right (skewness = 1.97) with a mean value of 218 ft and a median exposure of 180 ft. The percentiles indicate that only 10% of the observed structures within footprints had 400 ft or more of exposed wall surfaces.

The average wall height (HT) in feet for a sampled structure is also provided in this section. The cumulative percentages suggest that the majority of observed wall heights are below 45 ft (80%). Using a 12-ft per story average (and 2-ft average for the foundation), we find that 16% of the observations are of one-story, or even smaller, structures, 48% are of two stories or less, and 68% are of three stories or less. The mean value of 36 ft corresponds to an average building size of three stories. The standard deviation of 34 ft reflects the variance in height of structures; the maximum observed height was 300 ft.

Lot size (LOT) represents the plot of ground surrounding the building being sampled. The person on the survey team estimated the lot size in the field by using markers, such as fences and the proximity of adjacent buildings. The units of lot size are in feet, the square root of a rectangular or square lot surrounding the structure. This variable is skewed to the right, reflecting the relatively small lots surrounding the majority of sampled New Haven structures. For 25% of the structures sampled, lots of 90 ft or less or 270 ft and above were observed. The mean value of 215 ft reflects the tail-effect of observations in the upper 33% and the corresponding large variance. Thus, the median of 150 ft (22,500 ft^2) is probably more representative of the true lot size.

The building type classification (TYPE) is useful in determining the distribution of individual structures by their type or use. Of the 285 footprints containing buildings, 100 were found to be one-unit detached (35.1%). The majority of the remaining 185 structures observed were office or other commercial buildings (32.3%). Only one structure could not be identified by building use.

Actual spatial areas are presented in the Spatial Areas of Building Materials section for the five composite building material classifications recommended by the Interagency Task Force.* These areas represent square feet of building surface walls potentially exposed to acid deposition.

The five composite building materials computed included galvanized metal (AGALV), mortar-masonry (AMORT), painted materials (APAINT), stone materials (ASTONE) and all other materials (AOTHER). From the original building worksheet (Appendix B), the galvanized metal category includes bare galvanized steel. The mortar-masonry composite includes bare brick, bare block and bare field stone. Painted materials include the painted wood (excluding stained), painted steel, painted aluminum, painted masonry, painted concrete, painted stucco and all other painted surfaces. Stone materials encompass bare marble, bare limestone and bare granite. All other materials, the bare wood (including stained), bare concrete, bare glass, bare vinyl and other bare materials are contained within the AOTHER category.

Examining the area of painted materials, we see that 29% of the sampled structures have no painted wall surfaces. For those structures with painted surfaces, the exposure rises uniformly, with a mean exposure at 2402 ft^2 and a median of 928 ft^2. A standard deviation of 4359 ft^2 reflects the wide range of exposures between individual structures (minimum of 0 ft^2, maximum of 47,033 ft^2). The distribution is strongly skewed to the right (skewness = 5.3) and is far more peaked (kurtosis = 42.9) than a normal distribution with similar mean and standard error. Percentiles indicate that 67% of the sampled buildings had 2337 ft^2 or less of exposed painted materials.

Areas of exposed mortar and masonry were observed for 152 structures, indicating that 47% of the buildings had no mortar or masonry wall exposure. (Of the total 576 sampled footprints, 26% contained buildings with mortar-masonry walls). The mean mortar-masonry surface area (2166 ft^2) differs significantly from the median exposure (160 ft^2), reflecting the skewness of the distribution to the right (skewness = 3.8). The range of mortar-masonry surface area is 35,056 ft^2 and illustrates the large variability in walls with mortar-masonry construction (standard deviation of

*Personal communication with F. Lipfert, Brookhaven National Laboratory, 1984.

4539 ft^2). The quartile values indicate that 75% of the structures have exposures ranging from no mortar to 2696 ft^2. Less than 50% of the structures had exposures greater than 160 ft^2.

The distribution of exposed wall areas in bare stone materials (ASTONE) shows the relative scarcity of this material in the sampled footprints. Cumulative frequencies indicate that 93.3% of the footprints with buildings have no exposed bare stone surfaces (only 19 stone facings for 285 buildings). Summary statistics suggest that buildings with exposed stone surfaces tend to be small in area (86 to 31,172 ft^2) when compared to the exposed mortar-masonry and painted surfaces.

A small number of structures had bare galvanized steel. Of the 285 footprints with buildings, 16 structures were built with some portion of bare galvanized steel. The summary statistics reflect the strong absence of galvanized walls, with median and mode values of 0. Of the sample footprints with buildings, 94% have no galvanized steel exposure.

The fifth composite material class is the category that includes all materials that were not classified in the previously mentioned categories. The frequency tables show that the areas of materials found within the AOTHER category are relatively continuous, nonclustering, and have a relatively uniform frequency distribution. The percentile values reflect the uniformity of the distribution for surface wall areas below the 75th percentile (1998 ft^2). The upper 4% of the distribution rises sharply to a maximum exposure for an individual building of 55,680 ft^2 of material.

The Roof Materials section includes the variables of the presence of chimneys (CHIM), exposed chimney area (CAREA), chimney material (CMAT), exposed roof area (ESAREA), roof material (ERMAT), roof slope (SLOPE) and the roof apparatus items for the observed buildings (AAP), roof apparatus material (RMAT), and number of roof apparatus items (ITEMS).

The mean surface area of an observed chimney (CAREA) is 73 ft^2 with a standard deviation of 334 ft^2. Examining the percentiles, we see that the majority of chimney surface areas fall in the upper 10% of the distribution, with values greater than 120 ft^2. Chimney areas ranged from no chimney observed (55%) to the largest 4320-ft^2 chimney. Most chimneys were brick (32%), with roughly 6% of those chimneys observed being unidentifiable because the observer couldn't get a good look at it. There were 13 painted chimneys.

The exposed surface area of the roof (ESAREA) shows a wide range of values from 12 to 185,000 ft^2. The mean surface area observed was 11,664 ft^2. The roof material (ERMAT) was about equally divided between tar (37%) and asphalt shingles (40%). Most roofs were sloped (59%) rather than flat (41%), as shown by the SLOPE variable.

There were 30 roof apparatus (APP) items observed in New Haven. Most of these were vents, flues and stacks (83% of 30). The roof apparatus material (RMAT) was primarily other material types (37% of 30), followed by painted and bare aluminum surfaces (approximately 25% each of 30). A small amount of bare galvanized material (10% of 30) was observed for the roof apparatus items. Generally, a single roof item (ITEMS) was observed, with a maximum of 23 items observed per footprint.

The Rain Gutters, Downspouts, Fences and Other Accessories section contains that information for the 285 sampled structures.

Rain gutters (RGUT) were found on 101 structures (35%). Most rain gutters (RGMAT) were painted or bare galvanized steel and copper.

Downspouts (DSPOUT) were observed on 122 structures. The majority of downspouts were painted (84% of the 122 downspouts observed), with a small exposure of bare galvanized steel and copper. The average downspout (DSLENG) was 29 ft long with a maximum observed length of greater than 999 ft. Most spouts were between 20 and 40 ft long, corresponding to the first and second-story heights of an average-sized building. Note that the median and mode downspout length is 0 because of the large percentage of structures without downspouts (57%).

There were 77 fences (FENCE) observed within the sampled footprints. The majority of fences were either bare chain link (38% of the fences observed) or bare galvanized wire (19% of the observed) and masonry (17% of the observed). Percentiles indicate that 73% of the structures had no fences. The upper 75% of fence length ranges from 17 to 900 ft. Fence heights were primarily below 4 ft (90%) with a maximum observed height of 30 ft.

Up to five accessory types could be recorded for a structure within a given footprint. A maximum of three accessory types (ACCESS1-ACCESS3) were actually observed within any given footprint. The most prevalent accessory types were handrails, signs, poles and mailboxes. The material types observed were basically other materials, ornamental metal and painted

material surfaces. The surface areas of the observed first accessory type ranged from 2 to 2400 ft^2. The remaining accessory types (second and third) were minor in their distribution, with 1% or less observed in any given category.

CONCLUSIONS

A building material sampling program for the New Haven, Connecticut, area was conducted during March and April of 1984. The stratified, systematic, unaligned random sampling procedure was applied to generate sample points across the five sampling frame areas. Using this procedure, we surveyed a total of 576 points representing a minimum of 107 sample footprints per frame. Diverse data were taken on building size and surface material, roof characteristics and roof apparatus, chimneys, gutters, downspouts, fences and other outdoor accessories.

The summaries provided present the New Haven data according to overall distribution by structure. Observed sample sizes indicate that greater than 65% over-sampling is required in New Haven to obtain the desired 70 footprints with buildings per sampling frame.

A summary of the composite material classes is provided in Table 5. Notice that 93% and 94% of the sampled structures exhibited, respectively, no bare stone and bare galvanized steel exposure. Of the remaining three categories, mortar-masonry exposure and other materials exposure were sighted on more than half of the sampled structures (53% and 95%, respectively). Median exposures suggest that APAINT and AOTHER account for the majority of material exposure per structure in New Haven. The relative scarcity of the ASTONE and AGALV classes, coupled with small mean surface

Table 5. Summary statistics of the composite material classes.

Composite material class	Mean exposure (ft^2)	Median exposure (ft^2)	Inner quartile (ft^2)	Range (ft^2)	Percent of structures not exhibiting the material class
APAINT	2402	928	0 to 3270	47,033	29
AMORT	2166	160	0 to 2696	35,056	47
AGALV	773	0	0 to 0	35,028	94
ASTONE	463	0	0 to 0	31,172	93
AOTHER	2185	740	328 to 1998	55,680	5

areas on buildings when sighted, stongly suggest that additional composite classes should be considered to adequately summarize the five composite materials.

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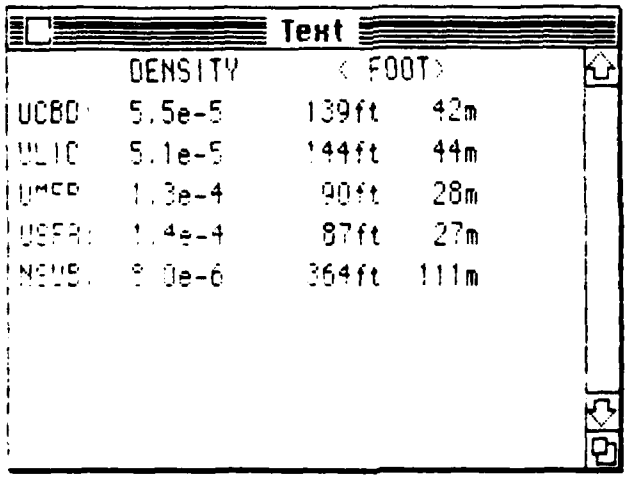
APPENDIX A: PROGRAM LISTINGS

Determining footprint size for each sampling frame

```
program FootSize (input, output);
{Footsize is a simple program for calculating footprint size for other}
{sampling frames based on some assumptions placed in the UCBD. The}
{following assumption pertain to the UCBD :}
{1. The sample size will be 107, allowing for empty footprints in 35% of}
{the sampled locations.}
{2. The alpha or proportionality coefficient, used to scale the remaining}
{sampling frames will be set to ensure that 35% of the spacial area }
{remains open in the UCBD}

 const
  size = 107;                    {sample size in the UCBD}
  frames = 5;                    {# of sampling frames}
  alpha = 0.009923;              {proportionality coefficient  derived}
                                 {from the 35% open area in the UCBD}
 var
  footFt, footM : integer;       {footprint size in both Feet and Meters}
  Alabel : str255;               {A labeler for the sampling frames}
  i : integer;                   {some counter variable OK?}

 function density (frame : integer) : real;
{A simple function to return the density values to the main loop, it also}
{sets a labeler to be used in the final output table.}
 begin
  case frame of
   1 :
    begin
     density := 5.5e-5;
     Alabel := 'UCBD: ';
    end;
   2 :
    begin
     density := 5.1e-5;
     Alabel := 'ULIC: ';
    end;
   3 :
    begin
     density := 13.0e-5;
     Alabel := 'UMFR: ';
    end;
```

```
    4:
     begin
      density := 14.0e-5;
      Alabel := 'USFR: ';
     end;
    5:
     begin
      density := 0.8e-5;
      Alabel := 'NSUB: ',
     end;
    otherwise
   end; {Case frame of}
 end;{Adensity}

begin {main}
{Label the simple table and calculate the footprint sizes, first in feet}
{and then in meters.  Print back out the label,density, and footprint}
{sizes on the current textport window}

 writeln('      DENSITY      < FOOT>');
 showText;
 for i := 1 to frames do
  begin
   footFt := round(sqrt(alpha * size / density(i)));
   footM := round(sqrt((alpha * size / density(i)) / 10.76));
   writeln(Alabel, density(i) : 5, footFt : 5, 'ft', footM : 5, 'm');
  end,
end.
```



Stratified, systematic, unaligned random sampling scheme

```
program SystemRS (input, output);

{program SystemRS is useful for calculating  two vectors of samples}
{according to the Stratified Systematic Unaligned Random Sample routine}
{the following variables are significant:}

{Size = the sample size or # of sample points to be generated by the program}
{Xmin,Ymin = the minimum X & Y coordinate allowable - needed to set the spacial plane}
{Xmax,Ymax = the maximum X & Y coordinate allowable - needed to set the spacial plane}

{For nice I/O the user should add a more lively Solicit and printback procedure, this}
{example simply illustrates the algorithm to be used.  It is written in vanilla Pascal}
{so as to be transportable to other non-Mac environments.  The function GetRandom}
{will probably have to be changed on the non-Mac host but is general enough that this}
{should cause no hardship... I hope}

 var
   Size, Xmin, Ymin, Xmax, Ymax : integer;

 procedure SolicitInfo;
{A simple procedure to solicit information in the current textport}
{it assumes that the solicited variables are declared within the main}
 begin
   write('input the desired sample size:');
   read(Size);
   write('input the minimum X and Y coordinate:');
   read(Xmin, Ymin);
   write('input the maximum X and Y coordinate:');
   read(Xmax, Ymax);
 end;{SolicitInfo}

 procedure GeneratePts;
{here is the meat of the program.  This procedure calls the GetRandom function to supply}
{it with a random value between zero and 1.  Based on the min and max values for both}
{X and Y, the block size BlockLength is calculated and used to figure out the approximate}
{no. of blocks that will fit in both the X and the Y plane (Xblock,Yblock). The systematic}
{unaligned random sample points are calculated across the X,Y plane and assigned to}
{the variables Xrandom and Yrandom}

   var
     BlockLength : real;
     Xblock, Yblock, Xrandom, Yrandom : LongInt;
     X, Y : integer;
```

```
  function GetRandom : real;
{GetRandom returns a random number from between lower and upper}
{it calls the Mac Random * generator and uses a random seed digit}
{in this way the procedure is randomly random, which I should think}
{is more than random enough!}
    var
      bone : Longint;

  begin
    RandSeed := Random;  {first set the seed value to be random}
    bone := Random; {set some variable, that we don't care about to be the}
 {re-randomized value which is somwhere between -32768 and 32767}
    bone := trunc(abs(bone - 1)); {we need a positive longint value Oh!}
 {bone now varies between 0 and 32767}

    GetRandom := bone / 32767; {returns first, a real value  that ranges from zero to 1}

  end; {GetRandom}

 begin {GeneratePts}

{calculate the individual block sizes}
  BlockLength := round(Sqrt((Xmax - Xmin) * (Ymax - Ymin) / Size));

{next, determine the approx * of blocks in the x,y plane}
  Xblock := round((Xmax - Xmin) / BlockLength);
  Yblock := round((Ymax - Ymin) / BlockLength);

  writeln('*');
  writeln(Xmin, Ymin, Xmax, Ymax);
  writeln('*');

  for X := 1 to Xblock do
   begin {X}
    for Y := 1 to Yblock do
     begin {Y}
      Xrandom := trunc(BlockLength * (GetRandom + X - 1)) + Xmin;
      Yrandom := trunc(BlockLength * ((Yblock - Y + 1) - GetRandom)) + Ymin;

    { now print the Vector of SURS values }
      writeln('X = ', Xrandom, '      Y = ', Yrandom);
      end; {Y}
    end; {X}


  end,{GeneratePts}
```

```
begin {main}
  showText;
  SolicitInfo;
  GeneratePts;
end.
```

APPENDIX B: DATA

UTM coordinates for each sample point

Number	UTM East	UTM North
1	673019.13	4574509.00
2	673140.88	4574643.00
3	673141.63	4574543.00
4	673142.38	4574486.00
5	673143.00	4574407.00
6	673174.25	4574688.00
7	673231.75	4574630.00
8	673232.50	4574530.00
9	673233.25	4574473.00
10	673233.88	4574394.00
11	673257.75	4574740.00
12	673258.50	4574604.00
13	673259.25	4574525.00
14	673273.88	4574489.00
15	673261.88	4574366.00
16	673284.00	4574343.00
17	673325.63	4574636.00
18	673361.75	4574557.00
19	673362.50	4574500.00
20	673384.63	4574400.00
21	673363.88	4574286.00
22	673479.25	4574596.00
23	673437.25	4574582.00
24	673416.63	4574502.00
25	673417.13	4574367.00
26	673439.25	4574324.00
27	673440.00	4574245.00
28	673542.00	4574555.00
29	673521.38	4574476.00
30	673500.63	4574362.00
31	673501.38	4574339.00
32	673502.00	4574260.00
33	673481.38	4574204.00
34	673562.50	4574591.00
35	673584.63	4574512.00
36	673585.38	4574377.00
37	673586.00	4574334.00
38	673622.13	4574219.00
39	673622.88	4574140.00
40	673582.38	4574124.00
41	673698.75	4574768.00
42	673699.38	4574710.00
43	673678.75	4574631.00
44	673700.75	4574552.00
45	673658.75	4574495.00
46	673659.38	4574417.00
47	673638.75	4574359.00
48	673682.25	4574258.00
49	673682.75	4574201.00
50	673662.13	4574122.00
51	673743.13	4574823.00
52	673761.50	4574705.00
53	673740.75	4574648.00
54	673741.50	4574590.00
55	673763.63	4574490.00
56	673742.88	4574411.00
57	673743.63	4574353.00
58	673779.75	4574217.00
59	673780.38	4574139.00
60	673759.75	4574082.00
61	673803.13	4574998.00
62	673796.50	4574983.00
63	673818.50	4574882.00
64	673819.25	4574825.00
65	673819.88	4574725.00
66	673820.63	4574668.00
67	673856.75	4574532.00
68	673857.50	4574474.00
69	673858.13	4574374.00
70	673804.50	4574293.00
71	673862.00	4574213.00
72	673812.75	4574177.00
73	673892.38	4575043.00
74	673871.63	4574986.00
75	673915.25	4574907.00
76	673929.88	4574771.00
77	673895.75	4574693.00
78	673875.13	4574669.00
79	673876.50	4574534.00
80	673898.63	4574511.00
81	673920.75	4574389.00
82	673921.50	4574311.00
83	673900.75	4574275.00
84	673922.75	4574153.00
85	673902.00	4574095.00
86	674017.00	4574940.00
87	674017.75	4574861.00
88	673977.25	4574802.00
89	673978.00	4574745.00
90	673957.25	4574666.00
91	673958.00	4574530.00
92	673958.63	4574451.00
93	673959.25	4574373.00
94	673960.00	4574350.00
95	674017.50	4574236.00
96	673996.88	4574157.00
97	673997.50	4574099.00
98	674098.50	4574937.00
99	674056.50	4574879.00
100	674078.38	4574822.00
101	674057.75	4574721.00
102	674058.38	4574643.00
103	674037.75	4574585.00
104	674057.50	4574352.00
105	674117.88	4574918.00
106	674120.00	4574681.00
107	674105.63	4574602.00

108	659756.00	4583907.00
109	659896.63	4584677.00
110	660149.63	4584218.00
111	659904.63	4583759.00
112	660621.00	4584408.00
113	660500.50	4583867.00
114	661104.38	4584174.00
115	660953.00	4583621.00
116	661124.50	4583119.00
117	661303.88	4584180.00
118	661269.00	4583760.00
119	661522.13	4583052.00
120	661238.25	4582880.00
121	662043.00	4584146.00
122	662047.00	4583437.00
123	662051.00	4582978.00
124	662187.63	4583876.00
125	662522.38	4583542.00
126	662195.63	4582958.00
127	662729.88	4583665.00
128	673604.63	4573462.00
129	673273.13	4572996.00
130	673612.88	4572530.00
131	673747.38	4573899.00
132	674004.13	4573525.00
133	674008.25	4573059.00
134	674012.25	4572719.00
135	674277.25	4573840.00
136	674881.88	4574033.00
137	675126.38	4573878.00
138	675040.88	4573874.00
139	671134.38	4575379.00
140	671142.25	4574350.00
141	671146.25	4574020.00
142	671722.13	4575118.00
143	671480.38	4574910.00
144	671730.13	4574211.00
145	671734.00	4573881.00
146	672310.00	4574979.00
147	672191.13	4574772.00
148	669774.88	4579063.00
149	670344.13	4578917.00
150	670347.88	4578490.00
151	670044.00	4578371.00
152	670355.38	4577751.00
153	670167.25	4577516.00
154	670605.75	4579195.00
155	670549.63	4578828.00
156	670669.25	4578285.00
157	670557.13	4577857.00
158	670676.75	4577314.00
159	670564.63	4577119.00
160	671119.00	4578990.00
161	671130.25	4577708.00
162	670826.25	4577396.00
163	670830.00	4577161.00
164	671371.88	4577890.00
165	671375.63	4577271.00
166	671379.38	4577151.00
167	671383.13	4576724.00
168	670393.63	4571847.00
169	670709.88	4572158.00
170	670854.50	4571842.00
171	679953.88	4589000.00
172	679834.50	4588668.00
173	679815.88	4588236.00
174	680352.13	4589504.00
175	680151.75	4589254.00
176	680155.63	4588798.00
177	680406.50	4588343.00
178	680687.75	4590194.00
179	680815.13	4589492.00
180	680738.25	4589242.00
181	680618.75	4588786.00
182	680541.88	4588412.00
183	681160.13	4591978.00
184	681096.50	4591590.00
185	680896.13	4590888.00
186	681227.88	4590557.00
187	681027.50	4589978.00
188	681603.38	4594242.00
189	681742.75	4592749.00
190	681623.38	4592417.00
191	681627.38	4591839.00
192	682240.38	4595286.00
193	682082.50	4594993.00
194	682209.88	4594414.00
195	682136.88	4594159.00
196	682225.75	4593743.00
197	682106.38	4593164.00
198	681948.50	4592994.00
199	681913.88	4592454.00
200	682617.25	4596263.00
201	682463.25	4596135.00
202	682343.88	4595634.00
203	682347.88	4595179.00
204	682351.75	4594396.00
205	682355.75	4594268.00
206	682359.75	4593813.00
207	682487.13	4593235.00
208	682803.00	4596302.00
209	682930.38	4595950.00
210	683057.75	4595618.00
211	682938.38	4595163.00
212	682942.25	4594584.00
213	682749.88	4593423.00
214	683478.13	4596346.00
215	683239.63	4595640.00
216	682025.75	4597046.00
217	682133.63	4597421.00
218	682238.25	4597204.00
219	682346.13	4596624.00
220	682723.13	4597191.00
221	682625.13	4596715.00
222	683103.38	4596978.00
223	683005.38	4596706.00
224	683214.50	4596968.00
225	683319.13	4596864.00
226	670047.63	4576826.00
227	670184.13	4576206.00
228	670188.38	4575850.00
229	670376.13	4576629.00

230	670380.38	4576493.00
231	670316.38	4575722.00
232	670452.88	4575453.00
233	670991.88	4576497.00
234	670863.88	4576009.00
235	671521.00	4575836.00
236	671525.25	4575348.00
237	671674.50	4573529.00
238	671354.50	4571650.00
239	671776.88	4575844.00
240	672004.50	4575352.00
241	672013.00	4574377.00
242	672153.88	4573401.00
243	672158.13	4572913.00
244	671710.13	4571427.00
245	671846.63	4571291.00
246	672338.75	4577436.00
247	672343.00	4576729.00
248	672347.25	4576460.00
249	672351.50	4576105.00
250	672355.75	4575485.00
251	672492.25	4575129.00
252	672496.63	4574641.00
253	672368.63	4574021.00
254	672240.63	4573666.00
255	672377.13	4573046.00
256	672381.38	4572690.00
257	672517.88	4572202.00
258	672261.88	4571227.00
259	672882.00	4577860.00
260	672886.25	4577372.00
261	672690.00	4576733.00
262	672826.50	4576597.00
263	672830.75	4576109.00
264	672835.13	4575489.00
265	672707.13	4575133.00
266	672711.38	4574645.00
267	672847.88	4574158.00
268	672984.38	4573538.00
269	672988.63	4573182.00
270	672992.88	4572430.00
271	672997.13	4572074.00
272	673278.75	4577112.00
273	673634.25	4576624.00
274	673163.50	4575644.00
275	673190.63	4574298.00
276	673194.88	4574162.00
277	673199.13	4573674.00
278	673977.13	4577380.00
279	673716.75	4577025.00
280	673985.63	4576272.00
281	673994.13	4575297.00
282	674456.38	4577385.00
283	674328.38	4577029.00
284	674332.63	4576409.00
285	674469.13	4575789.00
286	674341.13	4575433.00
287	674349.75	4574941.00
288	674354.00	4574453.00
289	674358.25	4574098.00
290	674848.88	4577343.00
291	674720.88	4576988.00
292	674989.63	4576368.00
293	674861.63	4575880.00
294	674865.88	4575392.00
295	674870.25	4574904.00
296	674874.50	4574549.00
297	675200.13	4576641.00
298	675336.63	4576504.00
299	675341.00	4576016.00
300	675345.25	4575396.00
301	675349.50	4574909.00
302	675353.75	4574421.00
303	676012.25	4576796.00
304	676016.50	4576176.00
305	675756.25	4575953.00
306	676025.00	4575200.00
307	675828.75	4575045.00
308	675700.75	4574557.00
309	675705.00	4574070.00
310	676140.25	4577151.00
311	676148.75	4576527.00
312	676504.38	4575820.00
313	676157.25	4575332.00
314	676512.88	4574712.00
315	676851.38	4575824.00
316	676548.75	4574717.00
317	672184.88	4579484.00
318	672666.50	4580061.00
319	672670.63	4579591.00
320	672802.00	4579122.00
321	673271.38	4580724.00
322	673148.25	4580509.00
323	673152.25	4580040.00
324	673029.13	4579571.00
325	673634.00	4580827.00
326	673387.75	4580143.00
327	681436.88	4591209.00
328	682094.50	4592208.00
329	681901.00	4591634.00
330	681904.88	4591186.00
331	682365.25	4592625.00
332	682247.50	4592055.00
333	682129.88	4591728.00
334	682133.75	4591280.00
335	682728.63	4592463.00
336	682611.00	4591813.00
337	670099.63	4581166.00
338	670585.88	4579691.00
339	672368.50	4581043.00
340	671781.00	4578966.00
341	671958.25	4576596.00
342	673857.38	4582056.00
343	673632.38	4579787.00
344	675686.50	4581234.00
345	675387.88	4579782.00
346	674610.50	4578809.00
347	675629.88	4573017.00
348	677442.13	4581229.00
349	677622.25	4579298.00
350	677009.63	4578160.00
351	676685.38	4576734.00

352	676731.75	4570165.00
353	677704.75	4569191.00
354	668682.75	4577708.00
355	668571.63	4574855.00
356	669177.75	4575496.00
357	668991.00	4575213.00
358	669006.13	4573481.00
359	668788.88	4572011.00
360	668327.00	4570728.00
361	667552.00	4568490.00
362	669327.75	4571949.00
363	669343.13	4570189.00
364	669358.63	4568428.00
365	671627.13	4570127.00
366	671642.50	4569157.00
367	660529.00	4571548.00
368	660544.63	4571048.00
369	663379.25	4574013.00
370	663394.88	4572226.00
371	662925.88	4570438.00
372	664728.63	4579265.00
373	665228.75	4577962.00
374	665244.38	4575206.00
375	664775.50	4574388.00
376	665327.63	4572549.00
377	664858.75	4570277.00
378	665859.13	4579103.00
379	665874.75	4576832.00
380	667271.00	4574951.00
381	665999.75	4574451.00
382	666015.38	4573148.00
383	666515.50	4570392.00
384	666062.38	4569073.00
385	670957.75	4584318.00
386	671450.75	4582079.00
387	672005.38	4585017.00
388	674799.00	4583969.00
389	676031.63	4589721.00
390	675091.75	4588915.00
391	676226.75	4586511.00
392	676719.75	4583795.00
393	676735.13	4582511.00
394	677451.63	4589300.00
395	677284.25	4588016.00
396	677438.63	4586568.00
397	677454.00	4585284.00
398	677586.25	4582567.00
399	678145.38	4580953.00
400	678646.88	4580451.00
401	678176.75	4578659.00
402	679164.13	4576381.00
403	678693.88	4575075.00
404	679195.50	4572797.00
405	680501.63	4581663.00
406	679728.50	4579369.00
407	680230.13	4578382.00
408	679759.88	4577076.00
409	680261.50	4575284.00
410	681860.13	4582081.00
411	681588.38	4576219.00
412	687345.00	4579514.00
413	687360.50	4577258.00
414	686097.50	4576279.00
415	688613.13	4579525.00
416	688312.88	4577584.00
417	679098.25	4571594.00
418	679113.88	4569321.00
419	678644.63	4568017.00
420	679645.88	4571047.00
421	679176.50	4569258.00
422	681950.75	4570515.00
423	683270.13	4572257.00
424	683770.63	4570468.00
425	683301.38	4568680.00
426	686060.00	4571725.00
427	685105.63	4570421.00
428	668641.88	4567643.00
429	679037.88	4587883.00
430	677778.88	4587387.00
431	677794.38	4585618.00
432	678769.50	4582888.00
433	679760.25	4587640.00
434	680255.50	4587145.00
435	679791.13	4585375.00
436	680766.38	4583605.00
437	682056.25	4590127.00
438	682102.75	4584818.00
439	682118.25	4583048.00
440	683093.38	4589570.00
441	678846.13	4595056.00
442	677611.50	4590998.00
443	678109.63	4590500.00
444	679406.50	4596259.00
445	679904.63	4595278.00
446	680719.13	4592700.00
447	679935.75	4591720.00
448	681730.75	4597463.00
449	681746.25	4595201.00
450	665882.75	4591359.00
451	665899.75	4589942.00
452	665916.75	4587998.00
453	668405.00	4591291.00
454	667894.88	4589347.00
455	667039.00	4587403.00
456	668456.00	4585986.00
457	669872.88	4591223.00
458	669017.00	4588752.00
459	669051.00	4586263.00
460	671554.38	4592013.00
461	671571.75	4588965.00
462	670517.13	4588060.00
463	672194.25	4591182.00
464	672211.50	4590284.00
465	672228.75	4588307.00
466	672246.13	4586867.00
467	672799.25	4583818.00
468	673623.25	4591102.00
469	673923.00	4587149.00
470	673957.50	4584619.00
471	664042.88	4585352.00
472	664060.25	4584796.00
473	663539.00	4582810.00

474	664633.50	4580285.00
475	665560.13	4586696.00
476	665577.50	4584709.00
477	666133.38	4582185.00
478	665612.25	4580737.00
479	668189.38	4584066.00
480	668206.75	4582080.00
481	667604.50	4579822.00
482	668513.63	4578374.00
483	670517.38	4584246.00
484	683400.38	4594283.00
485	684908.13	4594710.00
486	684925.13	4592758.00
487	686944.75	4594607.00
488	686961.75	4592656.00
489	686631.88	4591052.00
490	682782.25	4587912.00
491	682551.25	4585175.00
492	685028.38	4588454.00
493	684520.50	4587043.00
494	684537.38	4585632.00
495	685079.13	4582648.00
496	687014.50	4588911.00
497	687031.38	4586451.00
498	686523.63	4585040.00
499	686540.50	4583105.00
500	684081.88	4581070.00
501	684098.38	4579686.00
502	685161.38	4581020.00
503	684663.13	4579121.00
504	686047.13	4577222.00
505	686578.63	4580970.00
506	682340.63	4575840.00
507	682357.75	4574595.00
508	684890.63	4575959.00
509	684907.88	4573994.00
510	685509.50	4575340.00
511	685526.75	4573908.00
512	686627.25	4570859.00
513	688077.00	4574721.00
514	687085.50	4572349.00
515	687102.75	4571799.00
516	688980.88	4580140.00
517	689551.13	4577610.00
518	689568.50	4575098.00
519	689049.88	4573658.00
520	689067.25	4571146.00
521	691596.38	4580906.00
522	691077.88	4578930.00
523	690559.38	4577489.00
524	691112.50	4574977.00
525	691129.75	4573537.00
526	691682.75	4571561.00
527	691700.13	4568513.00
528	693140.38	4580785.00
529	693693.50	4578809.00
530	693175.00	4577368.00
531	693728.00	4574857.00
532	692380.00	4573710.00
533	693820.38	4570846.00
534	692414.63	4568335.00
535	694315.63	4577651.00
536	694799.00	4581728.00
537	695261.75	4574985.00
538	696345.13	4581575.00
539	696886.75	4580165.00
540	696903.75	4577704.00
541	696395.88	4575769.00
542	696937.50	4573833.00
543	698348.25	4581491.00
544	697756.38	4577620.00
545	697237.00	4575684.00
546	698801.25	4573207.00
547	688542.38	4594212.00
548	688086.88	4592477.00
549	688572.63	4590741.00
550	688117.25	4589005.00
551	688680.13	4587868.00
552	688160.25	4586424.00
553	689251.88	4583906.00
554	690713.00	4587798.00
555	690730.38	4585817.00
556	690210.50	4584373.00
557	693265.75	4589173.00
558	692746.00	4587729.00
559	692763.25	4585748.00
560	692243.50	4584304.00
561	694224.50	4588800.00
562	694778.88	4587660.00
563	695333.38	4585679.00
564	693924.13	4583161.00
565	695922.38	4587053.00
566	697626.25	4585349.00
567	697395.38	4583080.00
568	699180.00	4583796.00
569	699576.63	4578483.00
570	700017.13	4576482.00
571	699604.13	4574908.00
572	700044.75	4572907.00
573	701233.25	4576399.00
574	701687.75	4575252.00
575	701274.75	4574091.00
576	702917.50	4574008.00

Final Draft
1/3/84

BUILDING INVENTORY WORKSHEET

For Pilot Study

1. Building Identifiers:

1.1 State _____ County _____ Tract/MCD _____

Land use class _____

Photo ID _____

Street address _____

_____

1.2 UTM Coord. _____ N km _____ E km _____

Geog Coord. _____ lat N _____ long W _____

USGS quad, date _____

2. Building Description:

2.1 Type of Structure (Check One)

Residential Building

Housing Unit

1 Unit Detached	____
1 Unit Attached	____
2 Units	____
3 and 4 Units	____
5 to 9 Units	____
10 to 19 Units	____
20 to 49 Units	____
50 or More Units	____
Nonhousekeeping (i.e., hotels, motels, dormitories, fraternity and sorority houses, nurses homes, and similar facilities)	____

Nonresidential Building

Office Building _____
Other Commercial _____
Industrial _____
Hospital or Institutional _____
Religious _____
Educational _____
Other Nonresidential _____

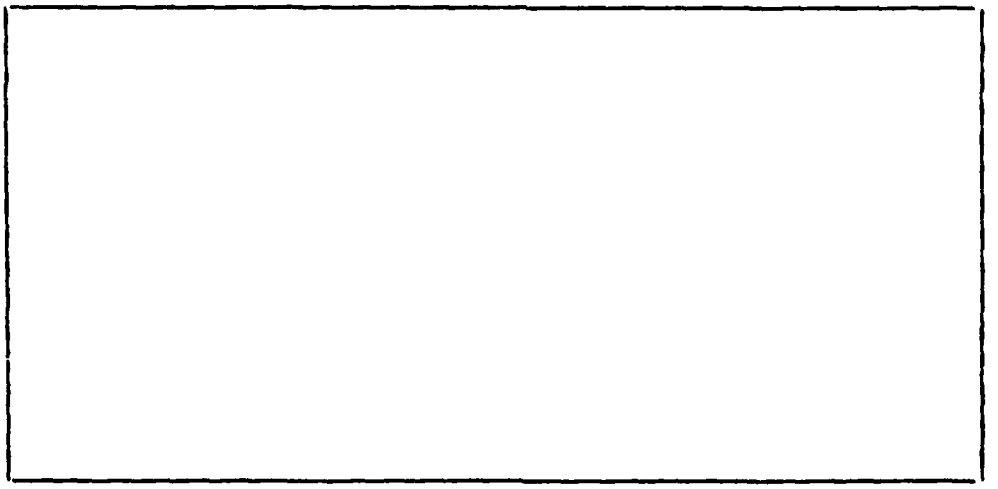
Farm (nonresidential) _____

Other (Identify structure _____) _____

Cannot Identify _____

2.2 Gross Lot Dimensions, including extension to center of street (f). _____

2.3 Sketch Building Exterior Plan, indicating (1) dimensions of building exterior (f) and (2) the location of horizontal guttering runs with dashed lines.



2.4 Number of Stories, excluding foundation _____

2.5 Average Wall Height (f) _____
(from grade to roof)

2.6 Approximate Age of Structure (yrs) _____

3. Materials Inventory:

3.1 Walls

(Indicate type of wall by entering the percentages of exterior wall surface area beside each type. Include areas of glazing and doorway under their proper material types.)

3.1.1 Painted Walls (Indicate percentages for each substrate material.)	Percent (%) of Wall Area of Each Horizontal Section: Foundation	1st Story	All Stories Above 1st	Percent (%) of Total Wall Area
3.1.1.1 Wood (excl. stained)				
3.1.1.2 Steel				
3.1.1.3 Aluminum				
3.1.1.4 Masonry				
3.1.1.5 Concrete				
3.1.1.6 Stucco				
3.1.1.7 Other (Identify Material _____)				
3.1.1.8 Cannot Identify				
TOTAL	100	100	100	100

3.1.2 Bare Walls (Indicate percentages for each surface material.)	Percent (%) of Wall Area of Each Horizontal Section: Foundation	1st Story	All Stories Above 1st	Percent (%) of Total Wall Area
3.1.2.1 Masonry (Check Brick _____, Block _____, or Field Stone _____)				
3.1.2.2 Concrete				
3.1.2.3 Marble				
3.1.2.4 Limestone				
3.1.2.5 Granite				
3.1.2.6 Galvanized Steel				
3.1.2.7 Wood (incl. stained)				
3.1.2.8 Glass				
3.1.2.9 Vinyl				
3.1.2.10 Other (Identify Material _____)				
3.1.2.11 Cannot Identify				
TOTAL	100	100	100	100

3.2 Roofs

3.2.1 Configuration: Check whether Sloped _____ or Flat _____

3.2.2 Area of Exposed Surface (f^2) _____

3.2.3 Exposed Roof Material
(Check Predominant Material)

3.2.3.1 Asphalt Shingle _____
3.2.3.2 Wood _____
3.2.3.3 Painted Metal _____
3.2.3.4 Bare Galvanized _____
3.2.3.5 Tile _____
3.2.3.6 Slate _____
3.2.3.7 Copper _____
3.2.3.8 Other (Identify Material _____) _____
3.2.3.9 Cannot Identify _____

3.2.4 Roof-Mounted Apparatus	Material [Enter material: painted, bare galvanized, bare aluminum, other (identify material), or cannot identify. For skylights, enter framing material only.]	Number of Items
3.2.4.1 Vents, Flues, Stacks	_____	_____
3.2.4.2 Skylights	_____	_____
3.2.4.3 Flashing	_____	N.A.

3.3 Chimneys

3.3.1 Exposed Surface Area Above Roof (f^2) _____

3.3.2 Enter Material: Painted, Brick, Stone, Other (Identify Material), or Cannot Identify. _____

3.4 Rain Gutters

3.4.1 Check if No Gutters _____

3.4.2 Horizontal Runs
Enter Material: Bare Galvanized, Vinyl, Painted, Copper, Other (Identify Material), or Cannot Identify _____

3.4.3 Downspouts
(Enter sum of heights for all downspouts.)

	Downspouts (f)
3.4.3.1 Bare Galvanized	_____
3.4.3.2 Vinyl	_____
3.4.3.3 Painted	_____
3.4.3.4 Copper	_____
3.4.3.5 Other (Identify Material _____)	_____
3.4.3.6 Cannot Identify	_____

3.5 Fences (Enter length and height.)	Length (f)	Height (f)
3.5.1 Bare Galvanized Chain Link	_____	_____
3.5.2 Bare Galvanized Wire Mesh	_____	_____

		Length (f)	Height (f)
3.5.3	Painted (Enter percent of area that is solid _____%.)	_____	_____
3.5.4	Masonry (Check Brick _____, Block _____, or Field Stone _____,)	_____	_____
3.5.5	Unpainted Wood	_____	_____
3.5.6	Other (Identify Material _____)	_____	_____
3.5.7	Cannot Identify	_____	_____

3.6 Outdoor Accessories. Describe all other accessories (e.g., sheds, storage tanks, handrails, poles, mailboxes, benches, signs, ornamental building features) of the following materials: painted, bare galvanized, bare aluminum, bare steel, copper, concrete, ornamental metal.

Accessory	Material	Exposed Surface Area (f^2)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Procedures used to check the data

The data were checked several ways to ensure that the data base was correct.

A major check of the material type percentages and the Exposed Wall in Footprint (EWIF) value in comparison to the lot size and building dimensions was done before printing a frequency run of the entire data set.

We checked the percentage to ensure that the sum of all material types for the three stories of the building totaled 100%. Also, during the same computer run, we checked to see that every building had a foundation. (In some cases, the field team had not recorded a foundation. For these cases, the photograph of the building was examined to determine the material type of the foundation.) We assumed 12 ft for the first story component of the building. During the same computer run, we would print out cases where the building height was greater than 14 ft (assuming 2 ft for the foundation

and 12 ft for the first story) and there were no percentages recorded for the second and above stories.

The EWIF value was compared against the lot size and the building side dimensions. A printout of these values was obtained for every building. We assumed that the building sides were the square root of the exposed roof area (ESAREA value) and would check to make sure that the EWIF was not larger than the building sides. There was also a check to ensure that the building was not larger than the lot size dimensions.

Several hand calculations were done for the building surface wall areas and compared against the computer-calculated wall surface areas. These values had to be consistent for different types of materials for a given building.

The frequency runs were checked several times for every variable. The empty footprints were noted for each sampling frame and verified against the number of buildings expected for each sampling frame. The tally of land use and census tract numbers also had to be correct for each sampling frame. The number of roof areas had to equal the number of buildings.

The number of cases had to be the same for a given accessory. For example, the number of material types and the surface area values had to be the same for the variables of roofs, fences, downspouts, rain gutters and roof-mounted apparatus. Although not every building had all these components, if the value was recorded, then each material type had to have a corresponding surface area.

Strange or unexpected numbers for all the variables were always double-checked against the building worksheets. For example, the EWIF values were always fairly even or divisible by 5 (as most people estimated building height in terms of 5-ft intervals). Any unusual numbers or large numbers were double-checked, not only for the EWIF, but for the other variables as well.

APPENDIX C. RESULTS OF FREQUENCY RUNS

Description of variables

Variable name	Brief description	Detailed description
FOOT	Footprint size	Footprint size (ft) associated with sampling point. For New Haven the footprint sizes were: UCBD = 139 ft, ULIC = 144 ft, UMFR = 90 ft, USFR = 87 ft and NSUB = 364 ft.
LU	Land use designation	U.S. Geological Survey land use classification, where: 11 = residential, 12 = commercial and services, 13 = industrial, 14 = transportation, communications and utilities, 15 = industrial and commercial complexes, 16 = mixed urban or builtup land, 17 = other urban and or builtup land, 21 = cropland and pasture, 22 = orchard, groves, vineyards, nurseries, and ornamental agricultural areas, 23 = confined feeding operations, 24 = other agricultural land, 31 = herbaceous rangland, 32 = shrub and brush rangeland, 33 = mixed rangeland, 41 = deciduous forestland, 42 = evergreen forestland, 43 = mixed forestland, 51 = streams and canals, 52 = lakes, 53 = reservoirs, 54 = bays and estuaries, 61 = forested wetland, 62 = nonforested wetland, 71 = dry salt flats, 72 = beaches, 73 = sandy areas other than beaches, 74 = bare exposed rock, 75 = strip mines, quarries, and gravel pits, 76 = transitional areas, 77 = mixed barren land.
SFRAME	Sampling frame	Sampling frame, where: 1 = UCBD 2 = ULIC 3 = UMFR 4 = USFR 5 = NSUB
SPOINT	Sample point number	Sampling point number within sampling frame.
TRACT	Census tract	Census tract number, see Figure 2, where:

1 = 1401	2 = 1402	3 = 1408	4 = 1413	5 = 1417
6 = 1543	7 = 1754	8 = 1403	9 = 1404	10 = 1406
11 = 1405	12 = 1407	13 = 1409	14 = 1410	15 = 1415
16 = 1418	17 = 1419	18 = 1420	19 = 1421	20 = 1422
21 = 1423	22 = 1424	23 = 1425	24 = 1545	25 = 1751
26 = 1752	27 = 1656	28 = 1801	29 = 1601	30 = 1412
31 = 1410	32 = 1411	33 = 1541	34 = 1574	35 = 1573
36 = 1572	37 = 1571	38 = 1544	39 = 1542	40 = 1546
41 = 1547	42 = 1548	43 = 1549	44 = 1550	45 = 1551
46 = 1861	47 = 1806	48 = 1805	49 = 1426	50 = 1427
51 = 1428	52 = 1802	53 = 1803	54 = 1804	55 = 1841
56 = 1842	57 = 1843	58 = 1844	59 = 1845	60 = 1673
61 = 1651	62 = 1652	63 = 1653	64 = 1654	65 = 1655
66 = 1414	67 = 1657	68 = 1658	69 = 1660	70 = 1671
71 = 1672	72 = 1757	73 = 1756	74 = 1755	75 = 1753
76 = 1759	77 = 1901	78 = 1941	79 = 1602	80 = 1611
81 = 1659	82 = 1758	83 = 1760	84 = 1862	85 = 1847
86 = 1846	87 = 1902	88 = 1903	89 = 1942	90 = 1416
91 = 1627				

ABR	Area of built residential	Land area of census tract in built residential (millions of ft^2).
ABNR	Area of built nonresidential	Land area of census tract in built nonresidential (millions of ft^2).
AOB	Area of open land with buildings	Land area of census tract in open land with buildings (millions of ft^2).
AO	Area of open land without buildings	Land area of census tract in open land without buildings (millions of ft^2).
ALAND	Area of land coverage	Total land area of census tract (million of ft^2).
DU	Total dwelling units in tract	Total number of housing units in census tract.
POP	Tract population	Total population in census tract.
U1	One unit structures in tract	Number of dwelling units in one-unit structures in census tract.
AGE	Approx. age of structure	Approximate age of the building. 1900 is the base year (year 0). To obtain age, add the value of 1900. Ages less than 1900 are coded as negative values.
EWIF	Exposed wall in footprint	Exposed walls within a given footprint (ft).
HT	Average wall height	Average building height (ft).
LOT	Lot size	Lot size associated with sampling point (ft). The square root of the lot area associated with the building was recorded.
TYPE	Structure type-usage	Value label assigned to structure, where: 0 = No building, 1 = 1 detached housing unit, 2 = 1 attached housing unit, 3 = 2 housing units, 4 = 3 to 4 housing units, 5 = 5 to 9 housing units, 6 = 10 to 19 housing units, 7 = 20 to 49 housing units, 8 = 50 or more housing units, 9 = nonhousekeeping (i.e., hotels, motels, dormitories, fraternity and sorority houses, nursing homes and similar facilities), 10 = office buildings, 11 = other commercial buildings, 12 = industrial buildings, 13 = hospital or institutional buildings, 14 = religious building, 15 = educational building, 16 = other nonresidential buildings, 17 = farm (nonresidential), 18 = other buildings, 19 = cannot identify building.
AGALV	Area of galvanized surface	The total surface area of a building (ft^2) containing galvanized material.
AMORT	Area of mortar-masonry surfaces	The total surface area of a building (ft^2) containing mortar and masonry materials.
APAINT	Area of painted surfaces	The total surface area of a building (ft^2) containing painted materials.
ASTONE	Area of stone surfaces	The total surface area of a building (ft^2) containing stone materials.

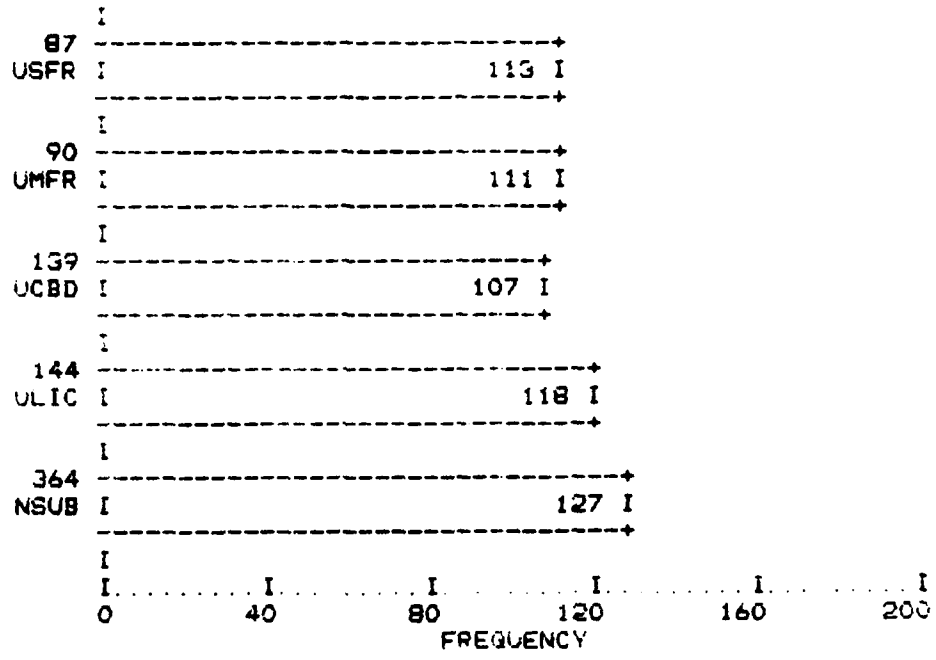
AOTHER	Area of other materials	The total surface area of a building (ft^2) containing all other materials.
CHIM	Indicator: chimneys	Chimneys observed (1) or not observed (0).
CMAT	Chimney material	Chimney material, where: 1 = painted, 2 = brick, 3 = stone, 4 = other chimney material, 9 = cannot identify chimney material.
CAREA	Exposed chimney area	Exposed surface area of chimney above roof (ft^2).
SLOPE	Indicator: roof slope	Roof configuration: 0 = sloped, 1 = flat.
ERMAT	Roof material type	Exposed roof material, where: 0 = tar, 1 = asphalt shingle, 2 = wood, 3 = painted metal, 4 = bare galvanized, 5 = tile, 6 = slate, 7 = copper, 8 = other roof material, 9 = cannot identify roof material.
ESAREA	Area of exposed roof	Exposed roof area of footprint (ft).
APP	Indicator: roof apparatus	Roof mounted apparatus, where: 0 = none, 1 = vents, flues, stacks, 2 = skylights, 3 = flashing.
RMAT	Roof apparatus material	Material type of the roof-mounted apparatus, where: 1 = painted, 2 = bare galvanized, 3 = bare aluminum, 4 = other roof-mounted apparatus material, 9 = cannot identify roof-mounted apparatus material.
ITEMS	Number of roof apparatus items	Number of items of roof-mounted apparatus (not applicable for flashing).
RGUT	Indicator: roof gutters	Rain gutters observed (1) or not observed (0).
RGMAT	Rain gutter material	Rain gutter material type, where: 1 = bare galvanized, 2 = vinyl, 3 = painted, 4 = copper, 5 = other rain gutter material, 9 = cannot identify rain gutter material.
DSPOUT	Material of downspout	Material type of downspouts, where: 0 = no downspout observed, 1 = bare galvanized, 2 = vinyl, 3 = painted, 4 = copper, 5 = other downspout material, 9 = cannot idenitfy downspout material.
DSLENG	Downspout length	Length of downspout (ft).
FENCE	Fence type	Material type of fences, where: 0 = no fences observed, 1 = bare galvanized chain link, 2 = bare galvanized wire mesh, 3 = painted fence, 4 = masonry, 5 = unpainted wood, 6 = other fence material, 9 = cannot identify fence material.

FLENG	Fence length	Length of fence (ft).
FHT	Fence height	Height of fence (ft).
ACCESS1	First access. type	First outdoor accessory, where: 1 = sheds, 2 = storage tanks, 3 = handrails, 4 = poles, 5 = mailboxes, 6 = benches, 7 = signs, 8 = ornamental building features, 9 = other outdoor accessory material.
AMAT1	First access. material	First outdoor accessory material type, where: 1 = painted, 2 = bare galvanized, 3 = bare aluminum, 4 = bare steel, 5 = copper, 6 = concrete, 7 = ornamental metal, 9 = other outdoor accessory material.
AAREA1	First access. area	Exposed surface area of first outdoor accessory (ft^2).
ACCESS2	Second access. area	Second outdoor accessory, see above list.
AMAT2	Second access. type	Second outdoor accessory material type, see above list.
AAREA2	Second access. area	Exposed surface area of outdoor accessory (ft^2).
ACCESS3	Third access. type	Third outdoor accessory, see above list.
AMAT3	Third access. material	Third outdoor accessory material type, see above list.
AAREA3	Third access. area	Exposed surface area of outdoor accessory (ft^2).
ACCESS4	Fourth access. type	Fourth outdoor accessory, see above list.
AMAT4	Fourth access. material	Fourth outdoor accessory material type, see above list.
AAREA4	Fourth access. area	Exposed surface area of outdoor accessory (ft^2).
ACCESS5	Fifth access. type	Fifth outdoor accessory, see above list.
AMAT5	Fifth access. material	Fifth outdoor accessory material type, see above list.
AAREA5	Fifth access. area	Exposed surface area of outdoor accessory (ft^2).

Major classification variables

FOOT FOOTPRINT SIZE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
USFR	87	113	19.6	19.6	19.6
UMFR	90	111	19.3	19.3	38.9
UCBD	139	107	18.6	18.6	57.5
ULIC	144	118	20.5	20.5	78.0
NSUB	364	127	22.0	22.0	100.0
	TOTAL	576	100.0	100.0	



MEAN	169.990	STD ERR	4.413	MEDIAN	139.000
MODE	364.000	STD DEV	105.922	VARIANCE	11219.520
KURTOSIS	-.363	S E KURT	1.997	SKEWNESS	1.176
S E SKEW	.102	RANGE	277.000	MINIMUM	87.000
MAXIMUM	364.000	SUM	97914.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	87.000	25.00	90.000	33.30	90.000
50.00	139.000	66.70	144.000	75.00	144.000
90.00	364.000				

VALID CASES 576 MISSING CASES 0

LAND USE DESIGNATION

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
RESIDENTIAL	11	138	24.0	24.0	24.0
COMMERCIAL SERVICES	12	33	5.7	5.7	29.7
INDUSTRIAL	13	36	6.3	6.3	35.9
TRANSPORTATION	14	32	5.6	5.6	41.5
MIXED URBAN	16	129	22.4	22.4	63.9
OTHER URBAN	17	19	3.3	3.3	67.2
CROPLAND	21	36	6.3	6.3	73.4
ORCHARD	22	2	.3	.3	73.8
DECIDUOUS FOREST	41	132	22.9	22.9	96.7
MIXED FOREST	43	2	.3	.3	97.0
STREAMS AND CANALS	51	4	.7	.7	97.7
LAKES	52	1	.2	.2	97.9
RESERVOIRS	53	2	.3	.3	98.3
FOREST WETLAND	61	2	.3	.3	98.6
NON FOREST WETLAND	62	6	1.0	1.0	99.7
TRANSITIONAL AREAS	76	2	.3	.3	100.0
	TOTAL	576	100.0	100.0	

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
138	10.00	**********************************
101	13.33	*************************
148	16.67	************************************
36	20.00	*********
2	23.33	*
0	26.67	
0	30.00	
0	33.33	
0	36.67	
132	40.00	*********************************
2	43.33	*
0	46.67	
4	50.00	*
3	53.33	*
0	56.67	
2	60.00	*
6	63.33	**
0	66.67	
0	70.00	
0	73.33	
2	76.67	*

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0 40 80 120 160 200
HISTOGRAM FREQUENCY

LU LAND USE DESIGNATION

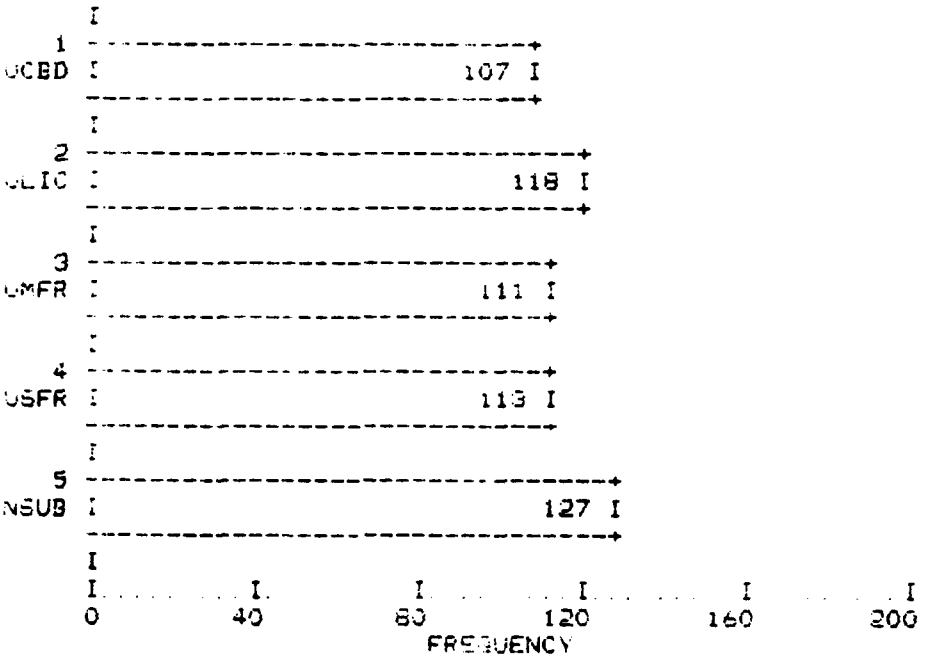
MEAN	21.741	STD ERR	.558	MEDIAN	16.000
MODE	11.000	STD DEV	13.402	VARIANCE	179.604
KURTOSIS	.509	S E KURT	1.997	SKEWNESS	1.244
S E SKEW	.102	RANGE	65.000	MINIMUM	11.000
MAXIMUM	76.000	SUM	12523.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	11.000	25.00	12.000	33.30	13.000
50.00	16.000	66.70	17.000	75.00	41.000
90.00	41.000				

VALID CASES	576	MISSING CASES	0

SFRAME SAMPLING FRAME

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
UCBD	1	107	18.6	18.6	18.6
ULIC	2	118	20.5	20.5	39.1
UMFR	3	111	19.3	19.3	58.3
USFR	4	113	19.6	19.6	78.0
NSUB	5	127	22.0	22.0	100.0
	TOTAL	576	100.0	100.0	



MEAN	3.001	STD ERR	.059	MEDIAN	3.000
MODE	5.000	STD DEV	1.423	VARIANCE	2.026
KURTOSIS	-1.319	S E KURT	1.997	SKEWNESS	-.035
S E SKEW	.102	RANGE	4.000	MINIMUM	1.000
MAXIMUM	5.000	SUM	1763.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	1.000	25.00	2.000	33.30	2.000
50.00	3.000	66.70	4.000	75.00	4.000
90.00	5.000				

VALID CASES 576 MISSING CASES 0

SPOINT SAMPLE POINT NUMBER

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
1	5	1	1	44	5	1	38	87	5	1	76
2	5	1	2	45	5	1	39	88	5	1	76
3	5	1	3	46	5	1	40	89	5	1	77
4	5	1	3	47	5	1	41	90	5	1	78
5	5	1	4	48	5	1	42	91	5	1	79
6	5	1	5	49	5	1	43	92	5	1	80
7	5	1	6	50	5	1	43	93	5	1	81
8	5	1	6	51	5	1	44	94	5	1	82
9	5	1	6	52	5	1	45	95	5	1	82
10	5	1	7	53	5	1	46	96	5	1	83
11	5	1	8	54	5	1	47	97	5	1	84
12	5	1	9	55	5	1	48	98	5	1	85
13	5	1	9	56	5	1	49	99	5	1	86
14	5	1	10	57	5	1	49	100	5	1	87
15	5	1	10	58	5	1	50	101	5	1	88
16	5	1	11	59	5	1	51	102	5	1	89
17	5	1	12	60	5	1	52	103	5	1	89
18	5	1	12	61	5	1	53	104	5	1	90
19	5	1	13	62	5	1	54	105	5	1	91
20	5	1	13	63	5	1	55	106	5	1	92
21	5	1	14	64	5	1	56	107	5	1	93
22	5	1	15	65	5	1	56	108	4	1	94
23	5	1	15	66	5	1	57	109	4	1	94
24	5	1	16	67	5	1	58	110	4	1	95
25	5	1	16	68	5	1	59	111	4	1	96
26	5	1	17	69	5	1	60	112	3	1	96
27	5	1	18	70	5	1	61	113	3	1	97
28	5	1	18	71	5	1	62	114	2	0	97
29	5	1	19	72	5	1	63	115	2	0	97
30	5	1	19	73	5	1	63	116	2	0	98
31	5	1	20	74	5	1	64	117	2	0	98
32	5	1	20	75	5	1	65	118	2	0	98
33	5	1	21	76	5	1	66	119	1	0	99
34	5	1	22	77	5	1	67	120	1	0	99
35	5	1	22	78	5	1	68	121	1	0	99
36	5	1	23	79	5	1	69	122	1	0	99
37	5	1	23	80	5	1	69	123	1	0	99
38	5	1	24	81	5	1	70	124	1	0	99
39	5	1	24	82	5	1	71	125	1	0	100
40	5	1	25	83	5	1	72	126	1	0	100
41	5	1	26	84	5	1	73	127	1	0	100
42	5	1	26	85	5	1	74				
43	5	1	27	86	5	1	75				

SPOINT SAMPLE POINT NUMBER

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 60 OCCURRENCES
20	4	**********
30	10	**********
30	16	**********
30	22	**********
30	28	**********
30	34	**********
30	40	**********
30	46	**********
30	52	**********
30	58	**********
30	64	**********
30	70	**********
30	76	**********
30	82	**********
30	88	**********
30	94	**********
30	100	**********
24	106	**********
20	112	**********
10	118	**********
1	124	**********

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HISTOGRAM FREQUENCY

MEAN	58.206	STD ERR	1.402	MEDIAN	58.000
MODE	1.000	STD DEV	33.646	VARIANCE	1132.035
KURTOSIS	-1.143	S E KURT	1.997	SKEWNESS	.039
S E SKEW	.102	RANGE	126.000	MINIMUM	1.000
MAXIMUM	127.000	SUM	33584.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	12.000	25.00	29.000	33.30	39.000
50.00	58.000	66.70	77.000	75.00	87.000
90.00	104.000				

VALID CASES 576 MISSING CASES 0

TRACT CENSUS TRACT

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
1	107	19	19	28	4	1	58	60	5	1	69
2	11	2	20	29	4	1	59	61	1	0	70
3	9	2	22	32	2	0	59	64	3	1	70
4	20	3	26	33	4	1	60	66	1	0	70
5	20	3	29	34	3	1	61	67	1	0	70
6	8	1	30	35	7	1	62	68	7	1	72
7	55	10	39	36	3	1	62	69	5	1	73
8	6	1	40	37	4	1	63	70	8	1	74
9	5	1	41	39	1	0	63	71	7	1	75
10	4	1	41	40	1	0	63	72	3	1	76
11	5	1	42	41	2	0	64	73	2	0	76
12	6	1	43	42	1	0	64	74	4	1	77
13	6	1	44	43	1	0	64	75	1	0	77
14	[illegible]	1	45	44	1	0	64	76	1	0	77
15	[illegible]	1	47	45	1	0	64	79	8	1	78
16	[illegible]	1	48	46	5	1	65	80	27	5	83
17	[illegible]	1	49	47	3	1	66	81	3	1	84
18	[illegible]	1	50	48	3	1	66	82	2	0	84
20	[illegible]	0	50	49	1	0	66	84	12	2	86
21	[illegible]	1	51	51	1	0	67	85	23	4	90
22	[illegible]	1	52	53	3	1	67	86	1	0	90
23	[illegible]	1	53	54	1	0	67	87	8	1	92
24	[illegible]	1	54	55	1	0	68	88	31	5	97
25	[illegible]	0	54	56	1	0	68	89	12	2	99
26	[illegible]	1	55	57	1	0	68	90	4	1	100
27	[illegible]	0	55	58	3	1	68	91	1	0	100
28	[illegible]	2	56	59	1	0	69				

TRACT CENSUS TRACT

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
3	-4	
127	1	*********************************
104	6	***************************
24	11	******
32	16	********
23	21	******
26	26	*******
11	31	***
17	36	****
8	41	**
13	46	***
5	51	*
6	56	**
4	61	**
12	66	***
28	71	*******
8	76	**
40	81	**********
76	86	********************
17	91	****
0	96	

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HISTOGRAM FREQUENCY

MEAN	34.944	STD ERR	1.408	MEDIAN	19.000
MODE	1.000	STD DEV	33.782	VARIANCE	1142.156
KURTOSIS	-1.413	S E KURT	.487	SKEWNESS	.537
S E SKEW	.112	RANGE	90.000	MINIMUM	1.000
MAXIMUM	91.000	SUM	19782.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	1.000	25.00	4.000	33.30	7.000
50.00	19.000	66.70	52.718	75.00	71.000
90.00	85.000				

VALID CASES 566 MISSING CASES 0

Census tract data

A3R AREA: BUILT RESIDENTIAL

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
175	1	**********
110	9	**********
89	17	**********
14	25	****
37	33	*********
6	41	**
7	49	**
8	57	**
18	65	*****
19	73	*****
24	81	******
27	89	*******
0	97	
12	105	***
0	113	
0	121	
0	129	
0	137	
0	145	
0	153	
31	161	********

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0 40 80 120 160 200
HISTOGRAM FREQUENCY

MEAN	31.511	STD ERR	1.777	MEDIAN	13.778
MODE	0.0	STD DEV	42.647	VARIANCE	1818.725
KURTOSIS	2.268	S E KURT	1.997	SKEWNESS	1.720
S E SKEW	.102	RANGE	161.459	MINIMUM	0.0
MAXIMUM	161.459	SUM	18150.536		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	2.583	33.30	5.167
50.00	13.778	66.70	25.833	75.00	47.361
90.00	86.972				

VALID CASES 576 MISSING CASES 0

AREA: BUILT RESIDENTIAL

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
0.0	108	19	19	13.78	55	10	59	31.00	4	1	69
.86	20	3	22	14.21	2	0	59	32.29	4	1	70
1.72	9	2	24	14.64	14	2	62	35.74	23	4	74
2.58	19	3	27	15.93	1	0	62	37.89	3	1	74
3.01	4	1	28	16.36	7	1	63	40.47	3	1	75
4.74	15	3	30	16.79	1	0	63	47.36	7	1	76
5.17	19	3	34	17.65	3	1	64	56.40	3	1	77
5.60	10	2	35	18.51	1	0	64	58.13	5	1	77
6.03	4	1	36	19.38	1	0	64	64.15	8	1	79
7.32	9	2	38	19.81	1	0	64	64.58	5	1	80
8.18	2	0	38	20.24	1	0	65	65.88	5	1	81
8.61	20	3	41	20.67	2	0	65	72.76	8	1	82
9.90	9	2	43	21.53	2	0	65	74.06	10	2	84
10.33	1	0	43	21.96	3	1	66	79.65	12	2	86
10.76	10	2	45	24.11	1	0	66	83.10	8	1	87
11.19	1	0	45	25.83	6	1	67	84.39	4	1	88
11.63	7	1	46	26.26	1	0	67	86.97	27	5	93
12.06	16	3	49	27.56	1	0	67	108.50	12	2	95
12.49	1	0	49	29.28	2	0	68	161.46	31	5	100
12.92	1	0	49	30.14	4	1	68				

ABNR AREA: BUILT NON-RESIDENTIAL

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0.0	5	.9	.9	.9
	.43	10	1.7	1.7	2.6
	.86	14	2.4	2.4	5.0
	1.29	20	3.5	3.5	8.5
	1.72	13	2.3	2.3	10.8
	2.15	4	.7	.7	11.5
	2.58	5	.9	.9	12.3
	3.01	7	1.2	1.2	13.5
	3.44	5	.9	.9	14.4
	3.88	14	2.4	2.4	16.8
	4.31	29	5.0	5.0	21.9
	4.74	8	1.4	1.4	23.3
	6.03	10	1.7	1.7	25.0
	6.46	37	6.4	6.4	31.4
	6.89	115	20.0	20.0	51.4
	7.75	8	1.4	1.4	52.8
	8.18	4	.7	.7	53.5
	8.61	19	3.3	3.3	56.8
	9.04	8	1.4	1.4	58.2
	9.90	32	5.6	5.6	63.7
	10.33	30	5.2	5.2	68.9
	10.76	2	.3	.3	69.3
	11.19	5	.9	.9	70.1
	11.63	24	4.2	4.2	74.3
	12.49	13	2.3	2.3	76.6
	12.92	1	.2	.2	76.7
	13.35	44	7.6	7.6	84.4
	14.64	8	1.4	1.4	85.8
	15.93	11	1.9	1.9	87.7
	22.39	4	.7	.7	88.4
	23.25	5	.9	.9	89.2
	40.47	55	9.5	9.5	98.8
	63.29	7	1.2	1.2	100.0
	TOTAL	576	100.0	100.0	

AGNR AREA: BUILT NON-RESIDENTIAL

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
0	-1.67	
78	1.67	********************
103	5.00	**************************
186	8.33	**
75	11.67	*******************
63	15.00	****************
0	18.33	
9	21.67	**
0	25.00	
0	28.33	
0	31.67	
0	35.00	
0	38.33	
55	41.67	**************
0	45.00	
0	48.33	
0	51.67	
0	55.00	
0	58.33	
7	61.67	**
0	65.00	

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I    +    I    +    I    +    I    +    I    +    I
0         40        80       120       160       200
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HISTOGRAM FREQUENCY

MEAN	11.591	STD ERR	.497	MEDIAN	6.889
MODE	6.889	STD DEV	11.927	VARIANCE	142.244
KURTOSIS	4.765	S E KURT	1.997	SKEWNESS	2.241
S E SKEW	.102	RANGE	63.292	MINIMUM	0.0
MAXIMUM	63.292	SUM	6676.638		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	1.722	25.00	6.135	33.30	6.889
50.00	6.889	66.70	10.333	75.00	12.486
90.00	20.472				

VALID CASES	576	MISSING CASES	0

AOB AREA: OPEN WITH BUILDINGS

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
0.0	204	35	35	14.21	8	1	63	62.75	4	1	75
.43	18	3	39	15.07	4	1	63	64.15	5	1	76
.86	2	0	39	16.79	2	0	64	66.74	3	1	76
1.29	5	1	40	18.08	20	3	67	74.06	1	0	76
1.72	8	1	41	19.38	3	1	68	79.22	4	1	77
2.15	9	2	43	20.24	1	0	68	87.40	7	1	78
2.58	22	4	47	20.67	4	1	68	112.38	5	1	79
4.74	1	0	47	21.10	3	1	69	116.68	3	1	80
5.17	2	0	47	22.82	3	1	69	124.43	8	1	81
6.89	1	0	47	24.11	1	0	70	127.01	5	1	82
7.75	9	2	49	26.69	1	0	70	158.44	23	4	86
8.18	1	0	49	27.13	8	1	71	304.83	12	2	88
8.61	7	1	50	27.99	3	1	72	436.58	27	5	93
9.47	3	1	51	37.03	2	0	72	576.08	12	2	95
12.05	59	10	61	37.89	8	1	73	717.31	31	5	100
12.49	1	0	61	58.99	3	1	74				

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 10.00 OCCURRENCES
401	9	**
25	44	***
14	79	**
21	114	**
23	149	**
0	184	
0	219	
0	254	
12	289	*
0	324	
0	359	
0	394	
34	429	***
0	464	
0	499	
0	534	
12	569	*
0	604	
0	639	
0	674	
31	709	***

I + I + I + I + I + I
0 100 200 300 400 500
HISTOGRAM FREQUENCY

AOB AREA OPEN WITH BUILDINGS

MEAN	96.081	STD ERR	8.142	MEDIAN	8.611
MODE	0.0	STD DEV	195.413	VARIANCE	38186.131
KURTOSIS	3.817	S E KURT	1.997	SKEWNESS	2.251
S E SKEW	.102	RANGE	717.307	MINIMUM	0.0
MAXIMUM	717.307	SUM	55342.859		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	8.611	66.70	18.083	75.00	64.153
90.00	436.584				

VALID CASES 576 MISSING CASES 0

AO AREA: OPEN WITHOUT BLDGS

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0.0	312	54.2	57.2	57.2
	.43	35	6.1	6.4	63.7
	.86	1	.2	.2	63.9
	1.29	5	.9	.9	64.8
	1.72	2	.3	.4	65.1
	2.15	1	.2	.2	65.3
	2.58	3	.5	.6	65.9
	3.01	14	2.4	2.6	68.4
	3.44	4	.7	.7	69.2
	3.88	1	.2	.2	69.4
	4.31	8	1.4	1.5	70.8
	5.17	5	.9	.9	71.7
	6.03	29	5.0	5.3	77.1
	6.89	3	.5	.6	77.6
	7.75	7	1.2	1.3	78.9
	8.18	1	.2	.2	79.1
	8.61	1	.2	.2	79.3
	9.04	3	.5	.6	79.8
	9.47	3	.5	.6	80.4
	10.76	1	.2	.2	80.6
	12.06	13	2.1	2.2	82.8
	15.07	5	.9	.9	83.7
	19.38	2	.3	.4	84.0
	20.67	4	.7	.7	84.8
	21.53	55	9.5	10.1	94.9
	23.25	4	.7	.7	95.6
	24.11	8	1.4	1.5	97.1
	25.40	1	.2	.2	97.2
	37.03	8	1.4	1.5	98.7
	41.76	7	1.2	1.3	100.0
		31	5.4	MISSING	
	TOTAL	576	100.0	100.0	

AO AREA: OPEN WITHOUT BLDGS

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
355	1	**********
23	3	***
13	5	**
39	7	*****
8	9	*
1	11	
12	13	**
5	15	*
0	17	
2	19	
59	21	*******
4	23	*
4	25	*
0	27	
0	29	
0	31	
0	33	
0	35	
8	37	*
0	39	
1	41	*

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+....+....I....+....I....+....I....+....I....+....I....+....I
0         80        160       240       320       400
HISTOGRAM FREQUENCY
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MEAN	5.347	STD ERR	.406	MEDIAN	0.0
MODE	0.0	STD DEV	9.470	VARIANCE	89.687
KURTOSIS	3.073	S E KURT	1.996	SKEWNESS	1.923
S E SKEW	.105	RANGE	41.764	MINIMUM	0.0
MAXIMUM	41.764	SUM	2914.006		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	3.014	75.00	6.028
90.00	21.528				

VALID CASES 545 MISSING CASES 31

ALAND AREA: LAND COVERAGE

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
0.0	1	0	0	24.54	1	0	45	76.21	3	1	59
3.01	3	1	1	24.97	11	2	47	106.78	4	1	60
5.17	2	0	1	28.42	3	1	48	111.08	55	10	69
6.89	113	20	21	30.14	1	0	48	117.97	3	1	70
7.32	4	1	21	31.00	1	0	48	119.26	1	0	70
8.18	8	1	23	35.31	7	1	49	148.97	4	1	70
8.61	3	1	23	36.60	1	0	49	152.85	3	1	71
9.04	6	1	24	38.32	20	3	53	155.00	2	0	71
9.90	7	1	26	40.90	1	0	53	179.54	8	1	73
10.76	20	3	29	42.19	1	0	53	180.40	7	1	74
11.19	10	2	31	42.63	2	0	53	188.58	4	1	75
11.63	5	1	32	44.76	3	1	54	189.44	5	1	76
12.49	1	0	32	47.36	1	0	54	211.40	5	1	76
14.64	6	1	33	47.79	1	0	54	215.28	8	1	78
15.07	7	1	34	51.24	1	0	55	217.00	7	1	79
15.50	15	3	37	52.10	3	1	55	224.75	23	4	83
15.93	6	1	38	52.96	2	0	55	228.19	5	1	84
16.36	1	0	38	55.97	1	0	56	287.18	3	1	84
17.22	1	0	38	56.40	1	0	56	338.42	8	1	86
17.65	7	1	39	57.26	1	0	56	471.46	12	2	88
18.08	5	1	40	58.56	4	1	57	575.65	27	5	93
18.51	22	3	43	62.43	3	1	57	722.47	12	2	95
19.38	8	1	45	70.61	4	1	58	1001.04	31	5	100
21.10	1	0	45	71.47	1	0	58				
21.53	1	0	45	73.63	2	0	58				

ALAND AREA: LAND COVERAGE

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
311	21	**
28	69	****
63	117	********
28	165	****
53	213	*******
0	261	
3	309	
8	357	*
0	405	
12	453	**
0	501	
0	549	
27	597	***
0	645	
0	693	
12	741	**
0	789	
0	837	
0	885	
0	933	
31	981	****

I...+...I...+...I...+...I...+...I...+...I
0 80 160 240 320 400

HISTOGRAM FREQUENCY

MEAN	163.408	STD ERR	10.862	MEDIAN	38.320
MODE	6.889	STD DEV	260.683	VARIANCE	67955.746
KURTOSIS	3.640	S E KURT	1.997	SKEWNESS	2.122
S E SKEW	.102	RANGE	1001.044	MINIMUM	0.0
MAXIMUM	1001.044	SUM	94123.073		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	6.889	25.00	9.903	33.30	15.069
50.00	38.320	66.70	111.084	75.00	189.445
90.00	575.654				

VALID CASES	576	MISSING CASES	0

DU TOTAL DWELLING UNITS IN TRACT

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
85.00	11	2	2	1189.00	3	1	44	1770.00	4	1	76
447.00	1	0	2	1218.00	3	1	44	1776.00	3	1	76
509.00	107	19	21	1234.00	1	0	44	1842.00	2	0	77
584.00	20	3	24	1236.00	7	1	46	1852.00	1	0	77
606.00	2	0	25	1237.00	1	0	46	1855.00	2	0	77
619.00	3	1	25	1309.00	2	0	46	1887.00	1	0	77
624.00	4	1	26	1337.00	1	0	46	1902.00	3	1	78
646.00	7	1	27	1343.00	6	1	47	1921.00	6	1	79
687.00	1	0	27	1367.00	1	0	47	1925.00	4	1	79
708.00	3	1	28	1369.00	1	0	48	1938.00	31	5	85
712.00	3	1	29	1385.00	8	1	49	1942.00	7	1	86
719.00	1	0	29	1402.00	12	2	51	1968.00	1	0	86
751.00	1	0	29	1404.00	3	1	52	1992.00	6	1	87
763.00	2	0	30	1471.00	1	0	52	2037.00	1	0	87
949.00	23	4	34	1494.00	1	0	52	2045.00	1	0	88
962.00	2	0	34	1498.00	55	10	62	2188.00	11	2	90
994.00	4	1	35	1535.00	3	1	62	2196.00	7	1	91
920.00	4	1	35	1543.00	3	1	63	2244.00	8	1	92
969.00	3	1	36	1562.00	5	1	63	2294.00	4	1	93
1034.00	2	0	36	1565.00	9	2	65	2435.00	4	1	94
1046.00	3	1	37	1577.00	20	3	69	2444.00	8	1	95
1067.00	4	1	38	1611.00	5	1	69	2447.00	7	1	96
1117.00	27	5	42	1631.00	5	1	70	2583.00	5	1	97
1132.00	1	0	42	1638.00	9	2	72	2619.00	4	1	98
1138.00	3	1	43	1658.00	6	1	73	3018.00	7	1	99
1184.00	1	0	43	1709.00	12	2	75	3834.00	6	1	100

M I S S I N G D A T A

VALUE	FREQ	VALUE	FREQ	VALUE	FREQ
-99.00	1				

D0 TOTAL DWELLING UNITS IN TRACT

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
11	170	***
0	349	
130	528	**********************************
30	707	********
36	886	*********
40	1065	**********
18	1244	*****
87	1423	**********************
65	1602	*****************
24	1781	******
61	1960	****************
19	2139	*****
12	2318	***
24	2497	******
4	2676	*
1	2855	
3	3034	**
0	3213	
0	3392	
0	3571	
0	3750	**

I + I + I + I + I + I
0 40 80 120 160 200
HISTOGRAM FREQUENCY

MEAN	1114.157	STD ERR	28.994	MEDIAN	1402.000
MODE	509.000	STD DEV	695.261	VARIANCE	483387.669
KURTOSIS	496	S E KURT	1.997	SKEWNESS	.592
S E SKEW	.102	RANGE	3749.000	MINIMUM	85.000
MAXIMUM	3834.000	SUM	761390.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	509.000	25.00	619.000	33.30	849.000
50.00	1402.000	66.70	1597.000	75.00	1770.000
90.00	2195.000				

VALID CASES 375 MISSING CASES 1

FOR TRACT POPULATION

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
273.00	11	2	2	3889.00	1	0	41	5477.00	20	3	75
590.00	3	1	2	3924.00	1	0	42	5512.00	7	1	76
1147.00	107	19	21	3929.00	3	1	42	5611.00	4	1	77
1685.00	1	0	21	3943.00	1	0	42	5613.00	5	1	78
2047.00	1	0	21	4261.00	3	1	43	5617.00	8	1	79
2054.00	1	0	22	4263.00	55	10	52	5717.00	1	0	79
2109.00	4	1	22	4316.00	9	2	54	5786.00	12	2	81
2165.00	4	1	23	4346.00	8	1	55	5825.00	5	1	82
2176.00	8	1	24	4421.00	6	1	56	6051.00	1	0	82
2179.00	3	1	25	4426.00	4	1	57	6279.00	11	2	84
2207.00	2	0	25	4428.00	3	1	58	6289.00	2	0	85
2296.00	2	0	26	4435.00	8	1	59	6316.00	1	0	85
2306.00	2	0	26	4481.00	1	0	59	6471.00	31	5	90
2369.00	7	1	27	4627.00	1	0	59	6588.00	1	0	90
2511.00	3	1	28	4639.00	1	0	59	6593.00	6	1	91
2595.00	1	0	28	4715.00	6	1	61	7068.00	3	1	92
2708.00	23	4	32	4724.00	6	1	62	7250.00	4	1	93
2915.00	3	1	32	4730.00	2	0	62	7272.00	7	1	94
3019.00	2	0	33	4785.00	3	1	62	7283.00	4	1	94
3089.00	1	0	33	5022.00	2	0	63	7428.00	8	1	96
3182.00	3	1	33	5024.00	1	0	63	7987.00	4	1	97
3288.00	4	1	34	5127.00	6	1	64	8339.00	5	1	97
3301.00	1	0	34	5151.00	4	1	65	8545.00	1	0	98
3470.00	7	1	35	5163.00	12	2	67	8941.00	7	1	99
3478.00	3	1	36	5166.00	5	1	68	9121.00	7	1	100
3736.00	3	1	37	5198.00	1	0	68				
3857.00	27	5	41	5218.00	20	3	71				

M I S S I N G D A T A

VALUE	FREQ	VALUE	FREQ	VALUE	FREQ
-99.00	1				

POP TRACT POPULATION

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
14	477	****
0	899	
107	1321	**************************
1	1743	
34	2165	*********
27	2587	*******
9	3009	**
15	3431	****
36	3853	*********
97	4275	************************
19	4697	*****
51	5119	*************
45	5541	***********
18	5963	*****
52	6385	*************
0	6807	
26	7229	*******
0	7651	
4	8073	*
6	8495	**
14	8917	****

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I    +    I    +    I    +    I    +    I    +    I    +    I
0         40        80       120       160       200
        HISTOGRAM FREQUENCY
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MEAN	4091.755	STD ERR	88.937	MEDIAN	4263.000
MODE	1147.000	STD DEV	2132.642	VARIANCE	4548162.08
KURTOSIS	-.676	S E KURT	1.997	SKEWNESS	.076
S E SKEW	.102	RANGE	8848.000	MINIMUM	273.000
MAXIMUM	9121.000	SUM	2352759.00		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	1147.000	25.00	2207.000	33.30	3122.000
50.00	4263.000	66.70	5165.192	75.00	5512.000
90.00	6517.800				

VALID CASES	575	MISSING CASES	1

ONE UNIT STRUCTURES IN TRACT

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
17.00	11	2	2	502.00	2	0	45	940.00	4	1	71
19.00	107	19	21	528.00	7	1	46	1008.00	1	0	71
20.00	2	0	21	549.00	3	1	47	1069.00	27	5	76
62.00	20	4	25	562.00	2	0	47	1104.00	4	1	76
63.00	4	1	25	587.00	1	0	47	1122.00	3	1	77
110.00	6	1	26	593.00	3	1	48	1142.00	8	1	78
137.00	10	2	28	604.00	4	1	49	1164.00	1	0	78
139.00	9	2	30	613.00	55	10	58	1172.00	2	0	79
160.00	3	1	30	625.00	1	0	58	1232.00	4	1	80
179.00	3	1	31	630.00	7	1	60	1308.00	1	0	80
212.00	6	1	32	667.00	1	0	60	1365.00	12	2	82
221.00	2	0	32	673.00	6	1	61	1385.00	3	1	82
226.00	6	1	33	675.00	1	0	61	1386.00	5	1	83
235.00	5	1	34	716.00	1	0	62	1417.00	11	2	85
260.00	4	1	35	760.00	1	0	62	1497.00	5	1	86
285.00	4	1	35	762.00	23	4	66	1512.00	4	1	87
307.00	6	1	36	781.00	8	1	67	1615.00	7	1	88
312.00	7	1	38	818.00	2	0	68	1624.00	2	0	88
322.00	1	0	38	826.00	1	0	68	1648.00	12	2	90
351.00	20	4	41	841.00	1	0	68	1707.00	3	1	91
362.00	6	1	43	886.00	1	0	68	1869.00	1	0	91
395.00	1	0	43	904.00	3	1	69	1874.00	31	5	96
473.00	1	0	43	912.00	4	1	69	2140.00	8	1	98
488.00	3	1	44	932.00	3	1	70	2146.00	5	1	99
501.00	7	1	45	935.00	1	0	70	2387.00	7	1	100

M I S S I N G D A T A

VALUE	FREQ	VALUE	FREQ	VALUE	FREQ
	1	-99.00	4		

V1 ONE UNIT STRUCTURES IN TRACT

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
150	72	**********
44	185	***********
22	298	******
29	411	*******
25	524	******
81	637	**********
33	750	********
12	863	***
9	976	**
42	1089	***********
7	1202	**
12	1315	***
19	1428	*****
9	1541	**
24	1654	******
0	1767	
32	1880	********
0	1993	
13	2106	***
0	2219	
7	2332	**

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0 40 80 120 160 200

HISTOGRAM FREQUENCY

MEAN	689.329	STD ERR	26.580	MEDIAN	613.000
MODE	19.000	STD DEV	635.154	VARIANCE	403421.081
KURTOSIS	-.348	S E KURT	1.997	SKEWNESS	.800
S E SKEW	.102	RANGE	2370.000	MINIMUM	17.000
MAXIMUM	2387.000	SUM	393607.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	19.000	25.00	63.000	33.30	235.000
50.00	613.000	66.70	781.000	75.00	1069.000
90.00	1648.000				

VALID CASES	571	MISSING CASES	5

General building descriptions

AGE APPROX AGE OF STRUCTURE

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
-99	3	1	1	15	4	1	15	55	8	3	55
-94	1	0	1	16	2	1	16	59	2	1	56
-92	1	0	2	20	9	3	19	60	19	7	62
-90	1	0	2	24	12	4	23	64	10	4	66
-66	4	1	4	25	6	2	25	65	4	1	67
-40	1	0	4	26	1	0	26	66	1	0	68
-34	1	0	4	28	1	0	26	67	1	0	68
-22	1	0	5	30	4	1	27	68	1	0	68
-19	1	0	5	34	6	2	29	69	2	1	69
-18	1	0	5	35	4	1	31	70	29	10	79
-16	1	0	6	38	1	0	31	72	8	3	82
-10	6	2	8	40	9	3	34	74	13	5	87
0	3	1	9	44	2	1	35	75	12	4	91
1	1	0	9	45	3	1	36	76	1	0	91
4	2	1	10	47	1	0	36	78	5	2	93
5	2	1	11	49	1	0	37	79	6	2	95
6	1	0	11	50	39	14	51	80	11	4	99
9	1	0	11	52	1	0	51	81	2	1	100
10	4	1	13	53	1	0	51	84	1	0	100
14	3	1	14	54	3	1	52				

AGE APPROX AGE OF STRUCTURE

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 1.50 OCCURRENCES
4	-98	***
2	-89	*
0	-80	
0	-71	
4	-62	***
0	-53	
1	-44	*
1	-35	*
1	-26	*
3	-17	**
6	-8	****
8	1	*****
9	10	******
15	19	**********
24	28	**********
20	37	**********
46	46	**********
15	55	**********
36	64	**********
65	73	**********
25	82	**********

I....+....I....+....I....+....I....+....I....+....I

0 15 30 45 60 75

HISTOGRAM FREQUENCY

MEAN	44.572	STD ERR	2.090	MEDIAN	50.000
MODE	50.000	STD DEV	35.287	VARIANCE	1245.154
KURTOSIS	4.516	S E KURT	1.993	SKEWNESS	-1.917
S E SKEW	.144	RANGE	183.000	MINIMUM	-99.000
MAXIMUM	84.000	SUM	12703.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	4.600	25.00	25.000	33.30	40.000
50.00	50.000	66.70	65.000	75.00	70.000
90.00	75.000				

VALID CASES	285	MISSING CASES	0

EWIF EXPOSED WALL IN FOOTPRINT

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
20	2	1	1	157	1	0	39	288	6	2	80
29	1	0	1	160	10	4	43	290	2	1	81
30	1	0	1	162	2	1	44	300	1	0	81
32	1	0	2	167	1	0	44	310	2	1	82
40	2	1	2	168	1	0	44	318	1	0	82
45	1	0	3	170	10	4	48	330	1	0	83
46	1	0	3	171	1	0	48	334	1	0	83
50	2	1	4	172	1	0	48	340	5	2	85
58	2	1	5	174	1	0	49	348	2	1	86
60	2	1	5	179	1	0	49	350	2	1	86
65	1	0	6	180	6	2	51	352	1	0	87
70	6	2	8	185	1	0	52	360	2	1	87
72	1	0	8	189	1	0	52	366	1	0	88
74	1	0	8	190	7	2	54	370	1	0	88
75	1	0	9	192	1	0	55	376	1	0	88
76	1	0	9	194	1	0	55	378	1	0	89
80	3	1	10	195	1	0	55	384	1	0	89
85	2	1	11	200	13	5	60	400	2	1	90
86	1	0	11	202	1	0	60	408	1	0	90
90	9	3	14	206	1	0	61	428	1	0	91
93	1	0	15	209	1	0	61	431	1	0	91
95	1	0	15	210	8	3	64	432	1	0	91
100	7	2	18	213	2	1	65	438	1	0	92
104	1	0	18	218	1	0	65	440	2	1	92
105	1	0	18	220	1	0	65	452	1	0	93
106	1	0	19	225	1	0	66	460	3	1	94
108	1	0	19	228	1	0	66	506	1	0	94
110	5	2	21	230	3	1	67	519	1	0	94
112	1	0	21	232	1	0	67	550	1	0	95
120	10	4	25	235	1	0	68	551	1	0	95
122	1	0	25	240	7	2	70	556	3	1	96
130	11	4	29	244	1	0	71	574	1	0	96
134	1	0	29	250	4	1	72	575	1	0	97
136	1	0	29	254	2	1	73	576	2	1	98
139	3	1	31	255	1	0	73	620	1	0	98
140	15	5	36	259	1	0	73	640	1	0	98
144	1	0	36	260	5	2	75	650	1	0	99
145	1	0	36	264	1	0	75	700	1	0	99
146	1	0	37	266	1	0	76	840	1	0	99
150	3	1	38	269	1	0	76	951	1	0	100
154	1	0	38	270	2	1	77	999	1	0	100
156	2	1	39	280	4	1	78				

EWIF EXPOSED WALL IN FOOTPRINT

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 1.20 OCCURRENCES
15	40	**********
44	87	**********
53	134	**********
60	181	**********
33	228	**********
26	275	**********
11	322	*********
12	369	**********
7	416	******
6	463	*****
2	510	**
9	557	********
1	604	*
2	651	**
1	698	*
0	745	
0	792	
1	839	*
0	886	
1	933	*
1	980	*

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0 12 24 36 48 60
HISTOGRAM FREQUENCY

MEAN	218.379	STD ERR	8.820	MEDIAN	180.000
MODE	140.000	STD DEV	148.907	VARIANCE	22173.173
KURTOSIS	5.497	S E KURT	1.993	SKEWNESS	1.973
S E SKEW	.144	RANGE	979.000	MINIMUM	20.000
MAXIMUM	999.000	SUM	62238.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	80.000	25.00	126.000	33.30	140.000
50.00	180.000	66.70	230.000	75.00	262.000
90.00	416.000				

VALID CASES	285	MISSING CASES	0

HT AVERAGE WALL HEIGHT

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
3	1	0	0	29	3	1	53	58	5	2	88
7	1	0	1	30	21	7	60	59	1	0	89
8	6	2	3	32	5	2	62	60	2	1	89
9	4	1	4	33	2	1	63	65	7	2	92
10	10	4	8	34	1	0	63	67	2	1	93
12	14	5	13	35	9	3	66	68	1	0	93
13	2	1	13	36	2	1	67	70	2	1	94
14	9	3	16	37	2	1	68	80	1	0	94
15	19	7	23	38	2	1	68	85	1	0	94
16	2	1	24	40	15	5	74	95	1	0	95
17	2	1	25	41	2	1	74	98	1	0	95
18	9	3	28	42	2	1	75	100	1	0	95
19	2	1	28	43	4	1	76	111	1	0	96
20	25	9	37	45	11	4	80	116	1	0	96
21	1	0	38	47	2	1	81	120	2	1	97
22	6	2	40	48	1	0	81	135	1	0	97
23	1	0	40	50	8	3	84	153	1	0	98
24	3	1	41	53	1	0	85	158	2	1	98
25	19	7	48	54	1	0	85	160	2	1	99
26	2	1	48	55	2	1	86	190	2	1	100
27	3	1	49	56	1	0	86	300	1	0	100
28	7	2	52	57	2	1	87				

HT AVERAGE WALL HEIGHT

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
12	2	***
105	17	**************************
78	32	********************
47	47	************
23	62	******
3	77	*
3	92	*
2	107	*
3	122	*
1	137	
3	152	*
2	167	*
0	182	
2	197	*
0	212	
0	227	
0	242	
0	257	
0	272	
0	287	
1	302	

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0 40 80 120 160 200
HISTOGRAM FREQUENCY

MEAN	36.098	STD ERR	1.989	MEDIAN	28.000
MODE	20.000	STD DEV	33.572	VARIANCE	1127.096
KURTOSIS	18.012	S E KURT	1.993	SKEWNESS	3.559
S E SKEW	.144	RANGE	297.000	MINIMUM	3.000
MAXIMUM	300.000	SUM	10288.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	12.000	25.00	18.000	33.30	20.000
50.00	28.000	66.70	36.000	75.00	42.500
90.00	65.000				

VALID CASES	285	MISSING CASES	0

LOT LOT SIZE

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
38	2	1	1	134	2	1	44	262	1	0	74
49	1	0	1	135	1	0	44	270	2	1	75
50	3	1	2	137	1	0	45	274	2	1	76
51	1	0	2	138	1	0	45	277	1	0	76
55	6	2	5	139	1	0	45	280	1	0	76
57	1	0	5	140	2	1	46	290	1	0	77
59	1	0	5	141	1	0	46	300	2	1	78
60	8	3	8	146	1	0	47	310	1	0	78
61	1	0	8	150	11	4	51	313	2	1	79
63	1	0	9	153	1	0	51	316	4	1	80
65	2	1	9	155	1	0	51	320	1	0	80
66	1	0	10	157	1	0	52	325	1	0	81
68	1	0	10	158	1	0	52	331	1	0	81
70	5	2	12	159	1	0	52	344	2	1	82
71	1	0	12	160	7	2	55	346	1	0	82
75	9	3	15	161	2	1	55	348	1	0	82
76	2	1	16	165	1	0	56	350	2	1	83
80	4	1	18	170	2	1	56	351	1	0	84
81	1	0	18	171	2	1	57	354	2	1	84
84	1	0	18	173	2	1	58	366	2	1	85
85	5	2	20	175	1	0	58	387	3	1	86
87	2	1	21	176	1	0	59	395	1	0	86
89	2	1	21	177	1	0	59	400	4	1	88
90	11	4	25	179	1	0	59	410	1	0	88
92	1	0	26	184	3	1	60	412	1	0	88
95	6	2	28	185	1	0	61	425	1	0	89
98	1	0	28	189	1	0	61	427	1	0	89
100	8	3	31	190	2	1	62	447	2	1	90
101	1	0	31	197	1	0	62	450	2	1	91
102	1	0	32	200	3	1	63	458	1	0	91
105	1	0	32	201	1	0	64	487	1	0	91
106	1	0	32	202	1	0	64	490	1	0	92
110	10	4	36	210	6	2	66	500	4	1	93
115	1	0	36	212	1	0	66	540	4	1	94
117	1	0	36	215	1	0	67	582	1	0	95
119	1	0	37	220	2	1	67	620	6	2	97
120	6	2	39	225	3	1	68	650	1	0	97
121	1	0	39	227	2	1	69	740	1	0	98
122	2	1	40	230	2	1	70	800	2	1	98
125	2	1	41	231	1	0	70	850	1	0	99
126	2	1	41	240	2	1	71	900	1	0	99
127	1	0	42	245	2	1	72	999	3	1	100
130	3	1	43	250	6	2	74				
132	1	0	43	253	1	0	74				

LOT LOT SIZE

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 1.50 OCCURRENCES
51	59	**********
68	105	**********
46	151	*********
25	197	*****
22	243	****
10	289	**
18	335	****
10	381	**
6	427	*
5	473	*
8	519	**
1	565	*
6	611	*
1	657	*
0	703	
1	749	*
2	795	*
1	841	*
1	887	*
0	933	
3	979	*

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0 15 30 45 60 75

HISTOGRAM FREQUENCY

MEAN	214.874	STD ERR	10.653	MEDIAN	150.000
MODE	90.000	STD DEV	179.852	VARIANCE	32346.639
KURTOSIS	4.534	S E KURT	1.993	SKEWNESS	1.994
S E SKEW	.144	RANGE	961.000	MINIMUM	38.000
MAXIMUM	999.000	SUM	61239.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	67.200	25.00	90.000	33.30	110.000
50.00	150.000	66.70	218.810	75.00	272.000
90.00	450.000				

VALID CASES	285	MISSING CASES	0

TYPE STRUCTURE TYPE-USAGE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
1 UNIT DETACHED	1	100	35.1	35.1	35.1
2 UNITS	3	9	3.2	3.2	38.2
3 TO 4 UNITS	4	4	1.4	1.4	39.6
5 TO 9 UNITS	5	14	4.9	4.9	44.6
10 TO 19 UNITS	6	5	1.8	1.8	46.3
50 OR MORE UNITS	8	3	1.1	1.1	47.4
NONHOUSEKEEPING	9	4	1.4	1.4	48.8
OFFICE BUILDING	10	23	8.1	8.1	56.8
OTHER COMMERCIAL	11	69	24.2	24.2	81.1
INDUSTRIAL	12	9	3.2	3.2	84.2
HOSP OR INST	13	8	2.8	2.8	87.0
RELIGIOUS	14	12	4.2	4.2	91.2
EDUCATIONAL	15	15	5.3	5.3	96.5
OTHER NONRESIDENT	16	4	1.4	1.4	97.9
FARM	18	5	1.8	1.8	99.6
CANNOT ID	19	1	.4	.4	100.0
	TOTAL	285	100.0	100.0	

COUNT	VALUE	ONE SYMBOL EQUALS APPROXIMATELY 2.00 OCCURRENCES
100	1.00	**
0	2.00	
9	3.00	*****
4	4.00	**
14	5.00	*******
5	6.00	***
0	7.00	
3	8.00	**
4	9.00	**
23	10.00	************
69	11.00	**********************************
9	12.00	*****
8	13.00	****
12	14.00	******
15	15.00	********
4	16.00	**
0	17.00	
5	18.00	***
1	19.00	*

I.....I.....I.....I.....I.....I
0 20 40 60 80 100
HISTOGRAM FREQUENCY

TYPE STRUCTURE TYPE-USAGE

MEAN	7.263	STD ERR	.320	MEDIAN	10.000
MODE	1.000	STD DEV	5.401	VARIANCE	29.173
KURTOSIS	-1.456	S E KURT	1.993	SKEWNESS	.047
S E SKEW	.144	RANGE	18.000	MINIMUM	1.000
MAXIMUM	19.000	SUM	2070.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	1.000	25.00	1.000	33.30	1.000
50.00	10.000	66.70	11.000	75.00	11.000
90.00	14.000				

VALID CASES	285	MISSING CASES	0

Spatial areas of building materials

AGALV AREA: GALVANIZED SURFACE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0.0	269	94.4	94.4	94.4
	78.40	1	.4	.4	94.7
	210.00	1	.4	.4	95.1
	902.40	1	.4	.4	95.4
	1469.60	1	.4	.4	95.8
	2556.00	1	.4	.4	96.1
	4190.40	1	.4	.4	96.5
	4598.88	1	.4	.4	96.8
	8757.00	1	.4	.4	97.2
	9232.08	1	.4	.4	97.5
	13920.00	1	.4	.4	97.9
	19493.76	1	.4	.4	98.2
	24992.00	1	.4	.4	98.6
	27153.00	1	.4	.4	98.9
	32697.00	1	.4	.4	99.3
	35028.00	2	.7	.7	100.0
	TOTAL	285	100.0	100.0	

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
273	834	**********************************
1	2502	
2	4170	
0	5838	
0	7506	
2	9174	
0	10842	
0	12510	
1	14178	
0	15846	
0	17514	
1	19182	
0	20850	
0	22518	
1	24186	
0	25854	
1	27522	
0	29190	
0	30858	
1	32526	
2	34194	

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0 80 160 240 320 400

HISTOGRAM FREQUENCY

AGALV AREA: GALVANIZED SURFACE

MEAN	773.005	STD ERR	260.641	MEDIAN	0.0
MODE	0.0	STD DEV	4400.128	VARIANCE	19361122.3
KURTOSIS	42.857	S E KURT	1.993	SKEWNESS	6.469
S E SKEW	.144	RANGE	35028.000	MINIMUM	0.0
MAXIMUM	35028.000	SUM	220306.520		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AMORT AREA: MORTAR / MASONRY SURFACE

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
0.0	133	47	47	862.00	1	0	64	3510.00	1	0	80
48.80	1	0	47	875.00	1	0	64	3519.00	1	0	81
77.60	1	0	47	891.00	1	0	64	3585.60	1	0	81
85.60	1	0	48	957.60	1	0	65	3609.00	1	0	81
99.00	1	0	48	965.20	1	0	65	3711.76	1	0	82
109.20	1	0	48	1038.00	1	0	65	3788.40	1	0	82
116.00	1	0	49	1048.32	1	0	66	3808.80	1	0	82
120.00	1	0	49	1112.00	2	1	66	4098.40	1	0	83
130.00	1	0	49	1125.00	1	0	67	4103.50	1	0	83
144.00	1	0	50	1155.00	1	0	67	4147.20	1	0	84
160.00	1	0	50	1176.00	1	0	67	4186.00	1	0	84
161.00	1	0	51	1204.80	1	0	68	4193.00	1	0	84
220.00	1	0	51	1220.00	1	0	68	4219.20	1	0	85
220.00	1	0	51	1344.00	1	0	68	4297.80	1	0	85
235.00	1	0	52	1365.00	1	0	69	4876.40	1	0	85
240.00	1	0	52	1377.00	1	0	69	4930.31	1	0	86
255.00	1	0	52	1433.60	1	0	69	4939.22	1	0	86
260.00	1	0	53	1638.00	1	0	70	5040.00	1	0	86
272.00	1	0	53	1783.08	1	0	70	5067.20	1	0	87
278.00	1	0	53	1880.00	1	0	71	5290.00	1	0	87
280.00	1	0	54	1945.80	1	0	71	5830.00	1	0	87
280.00	1	0	54	1950.00	1	0	71	5955.00	1	0	88
281.60	1	0	54	1986.90	1	0	72	6240.00	1	0	88
288.00	1	0	55	2002.29	1	0	72	6344.40	1	0	88
292.00	1	0	55	2073.60	1	0	72	6420.00	1	0	89
300.00	1	0	55	2142.00	1	0	73	6528.00	1	0	89
300.00	1	0	56	2172.00	1	0	73	6542.40	1	0	89
312.00	1	0	56	2175.60	1	0	73	6566.40	1	0	90
320.00	1	0	56	2240.00	1	0	74	6789.12	1	0	90
323.84	1	0	57	2267.80	1	0	74	6804.48	1	0	91
340.00	2	1	58	2268.00	1	0	74	6878.00	1	0	91
360.00	1	0	58	2612.40	1	0	75	7260.00	1	0	91
360.36	1	0	58	2670.64	1	0	75	7264.40	1	0	92
399.50	1	0	59	2721.70	1	0	75	7280.34	1	0	92
420.00	2	1	59	2782.50	1	0	76	7322.22	1	0	92
426.00	1	0	60	2808.00	1	0	76	7364.16	1	0	93
471.00	1	0	60	2850.00	1	0	76	7502.60	1	0	93
530.00	1	0	60	2856.00	1	0	77	7525.00	1	0	93
560.00	1	0	61	2975.00	1	0	77	7848.00	1	0	94
595.20	1	0	61	3052.50	1	0	78	8488.20	1	0	94
624.37	1	0	61	3100.00	1	0	78	8754.48	1	0	94
636.00	1	0	62	3112.00	2	1	79	9328.00	1	0	95
646.00	1	0	62	3235.92	1	0	79	9331.20	1	0	95
666.40	1	0	62	3402.00	1	0	79	10127.00	1	0	95
702.00	1	0	63	3465.00	1	0	80	10432.52	1	0	96
732.00	1	0	63	3496.00	1	0	80	10756.80	1	0	96

AMORT AREA: MORTAR / MASONRY SURFACE

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
10764.00	1	0	96	18576.00	1	0	98	26853.12	1	0	99
10893.60	1	0	97	18720.00	1	0	98	28008.50	1	0	100
15531.86	1	0	97	19707.20	1	0	99	35056.00	1	0	100
17173.40	1	0	98	21196.80	1	0	99				

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
199	828	**********
26	2498	*******
20	4168	*****
11	5838	***
11	7508	***
4	9178	*
5	10848	*
0	12518	
0	14188	
1	15858	
1	17528	
3	19198	*
1	20868	
0	22538	
0	24208	
0	25878	
2	27548	*
0	29218	
0	30888	
0	32558	
1	34228	

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I    .+...    I....+....I....+....I....+....I....+....I
0         40         80        120        160        200
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HISTOGRAM FREQUENCY

MEAN	2166.280	STD ERR	268.894	MEDIAN	160.000
MODE	0.0	STD DEV	4539.447	VARIANCE	20606578.0
KURTOSIS	18.072	S E KURT	1.993	SKEWNESS	3.782
S E SKEW	.144	RANGE	35056.000	MINIMUM	0.0
MAXIMUM	35056.000	SUM	617389.710		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	160.000	66.70	1147.860	75.00	2696.170
90.00	6795.264				

VALID CASES 285 MISSING CASES 0

APAINT AREA: PAINTED SURFACE

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
0.0	84	29	29	735.00	1	0	47	1854.00	1	0	63
8.00	1	0	30	742.40	1	0	47	1872.00	1	0	64
17.40	1	0	30	763.20	1	0	47	1880.00	1	0	64
42.00	1	0	31	792.00	1	0	48	1932.00	1	0	64
54.00	1	0	31	828.00	1	0	48	2040.00	1	0	65
54.40	1	0	31	873.60	1	0	48	2108.00	1	0	65
55.38	1	0	32	880.32	1	0	49	2136.00	1	0	65
78.00	1	0	32	892.40	1	0	49	2142.00	1	0	66
81.00	2	1	33	904.80	1	0	49	2208.00	1	0	66
105.30	1	0	33	921.60	1	0	50	2254.56	1	0	66
106.76	1	0	33	928.00	1	0	50	2325.60	1	0	67
112.00	1	0	34	952.20	1	0	51	2340.80	1	0	67
119.00	1	0	34	972.00	1	0	51	2343.60	1	0	67
139.32	1	0	34	990.00	1	0	51	2368.80	1	0	68
144.50	1	0	35	1012.50	1	0	52	2380.56	1	0	68
207.00	1	0	35	1020.00	1	0	52	2457.00	1	0	68
214.00	1	0	35	1020.60	1	0	52	2462.40	1	0	69
230.40	1	0	36	1029.60	1	0	53	2565.64	1	0	69
252.00	1	0	36	1045.00	1	0	53	2686.40	1	0	69
267.20	1	0	36	1072.50	1	0	53	2692.80	1	0	70
268.80	1	0	37	1076.40	1	0	54	2704.00	1	0	70
272.00	1	0	37	1092.00	1	0	54	2723.40	1	0	71
278.40	1	0	38	1109.76	1	0	54	2755.00	1	0	71
313.00	1	0	38	1150.00	1	0	55	2818.80	1	0	71
342.00	1	0	38	1243.55	1	0	55	2836.80	1	0	72
390.00	1	0	39	1302.00	1	0	55	2845.80	1	0	72
435.20	1	0	39	1326.00	1	0	56	2873.00	1	0	72
436.80	1	0	39	1355.20	1	0	56	2888.00	1	0	73
444.00	1	0	40	1362.60	1	0	56	2896.00	1	0	73
451.00	1	0	40	1380.40	1	0	57	2898.00	1	0	73
456.00	1	0	40	1435.20	1	0	57	2899.00	1	0	74
465.50	1	0	41	1443.00	1	0	58	2901.60	1	0	74
468.00	2	1	41	1450.80	1	0	58	3008.46	1	0	74
486.00	2	1	42	1454.40	1	0	58	3100.80	1	0	75
499.20	1	0	42	1473.20	1	0	59	3239.60	1	0	75
570.00	1	0	43	1483.20	1	0	59	3300.10	1	0	75
600.00	1	0	43	1530.00	1	0	59	3318.00	1	0	76
602.00	1	0	44	1550.00	1	0	60	3421.60	1	0	76
604.20	1	0	44	1554.80	1	0	60	3422.40	1	0	76
608.00	1	0	44	1644.00	1	0	60	3440.00	1	0	77
626.50	1	0	45	1644.00	1	0	61	3458.00	1	0	77
650.00	1	0	45	1710.80	1	0	61	3459.20	1	0	78
650.00	1	0	45	1755.60	1	0	61	3496.00	1	0	78
665.00	1	0	46	1824.00	2	1	62	3498.00	1	0	78
708.00	1	0	46	1830.00	1	0	62	3508.80	1	0	79
713.00	1	0	46	1850.00	1	0	63	3515.40	1	0	79

APAINT AREA. PAINTED SURFACE

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
3606.96	1	0	79	5273.40	1	0	86	7452.00	1	0	93
3622.50	1	0	80	5315.70	1	0	87	7526.40	1	0	94
3643.20	1	0	80	5327.60	1	0	87	7708.80	1	0	94
3726.00	1	0	80	5605.60	1	0	87	7761.60	1	0	94
3803.80	1	0	81	5720.00	1	0	88	7788.00	1	0	95
3933.00	1	0	81	5776.00	1	0	88	7845.60	1	0	95
3980.00	1	0	81	5896.80	1	0	88	8364.00	1	0	95
4032.00	1	0	82	6061.44	1	0	89	8645.00	1	0	96
4107.80	1	0	82	6120.00	1	0	89	8891.52	1	0	96
4154.80	1	0	82	6249.60	1	0	89	9091.50	1	0	96
4165.00	1	0	83	6300.00	1	0	90	9405.00	1	0	97
4211.20	1	0	83	6422.00	1	0	90	10621.00	1	0	97
4417.50	1	0	84	6451.20	1	0	91	10863.00	1	0	98
4480.00	1	0	84	6626.25	1	0	91	13094.40	1	0	98
4576.00	1	0	84	6740.00	1	0	91	14968.80	1	0	98
4737.60	1	0	85	7017.60	1	0	92	18432.00	1	0	99
4968.00	1	0	85	7109.40	1	0	92	19780.00	1	0	99
5161.20	1	0	85	7199.07	1	0	92	21128.00	1	0	99
5201.68	1	0	86	7208.00	1	0	93	25656.40	1	0	100
5256.00	1	0	86	7341.60	1	0	93	47032.92	1	0	100

APAINT AREA. PAINTED SURFACE

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 4.00 OCCURRENCES
188	1116	**********
50	3356	**********
21	5596	*****
15	7836	****
4	10076	*
1	12316	
1	14556	
0	16796	
2	19036	*
1	21276	
0	23516	
1	25756	
0	27996	
0	30236	
0	32476	
0	34716	
0	36956	
0	39196	
0	41436	
0	43676	
1	45916	

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0 40 80 120 160 200
HISTOGRAM FREQUENCY

MEAN	2401.527	STD ERR	258.199	MEDIAN	928.000
MODE	0.0	STD DEV	4358.899	VARIANCE	18999999.4
KURTOSIS	42.909	S E KURT	1.993	SKEWNESS	5.301
S E SKEW	.144	RANGE	47032.920	MINIMUM	0.0
MAXIMUM	47032.920	SUM	684435.250		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	108.007
50.00	928.000	66.70	2337.182	75.00	3269.850
90.00	6433.680				

VALID CASES	285	MISSING CASES	0

4STONE AREA: STONE SURFACE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0.0	266	93.3	93.3	93.3
	86.40	1	.4	.4	93.7
	136.00	1	.4	.4	94.0
	280.00	1	.4	.4	94.4
	520.00	1	.4	.4	94.7
	791.80	1	.4	.4	95.1
	1036.80	1	.4	.4	95.4
	1620.00	1	.4	.4	95.8
	2042.88	1	.4	.4	96.1
	2505.60	1	.4	.4	96.5
	3304.84	1	.4	.4	96.8
	4984.00	1	.4	.4	97.2
	6464.00	1	.4	.4	97.5
	7833.60	1	.4	.4	97.9
	11302.20	1	.4	.4	98.2
	13017.60	2	.7	.7	98.9
	15527.92	1	.4	.4	99.3
	16197.60	1	.4	.4	99.6
	31171.72	1	.4	.4	100.0
	TOTAL	285	100.0	100.0	

ASTONE AREA: STONE SURFACE

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
272	736	**********
3	2221	
1	3706	
1	5191	
1	6676	
1	8161	
0	9646	
1	11131	
2	12616	
0	14101	
2	15586	
0	17071	
0	18556	
0	20041	
0	21526	
0	23011	
0	24496	
0	25981	
0	27466	
0	28951	
1	30436	

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          I    +    I    +    I    +    I    +    I    +    I
          0         80        160       240       320       400
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HISTOGRAM FREQUENCY

MEAN	462.598	STD ERR	158.558	MEDIAN	0.0
MODE	0.0	STD DEV	2676.768	VARIANCE	7165085.35
KURTOSIS	71.952	S E KURT	1.993	SKEWNESS	7.807
S E SKEW	.144	RANGE	31171.720	MINIMUM	0.0
MAXIMUM	31171.720	SUM	131840.560		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AOTHER AREA: OTHER MATERIALS

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
0.0	13	5	5	285.60	1	0	22	548.68	1	0	39
32.00	1	0	5	285.60	1	0	22	554.20	1	0	39
43.20	1	0	5	292.00	1	0	22	554.40	1	0	40
52.50	1	0	6	292.40	1	0	23	559.00	1	0	40
78.40	1	0	6	301.60	1	0	23	560.00	1	0	40
88.00	1	0	6	302.40	1	0	24	571.20	1	0	41
91.20	1	0	7	308.00	1	0	24	574.00	1	0	41
100.00	1	0	7	322.00	1	0	24	576.80	1	0	41
104.00	2	1	8	324.30	1	0	25	580.00	1	0	42
105.60	1	0	8	328.00	2	1	25	588.80	1	0	42
108.00	1	0	8	330.00	1	0	26	605.20	1	0	42
108.00	1	0	9	332.80	1	0	26	606.02	1	0	43
110.50	1	0	9	336.60	1	0	26	609.60	1	0	43
112.00	1	0	9	337.50	1	0	27	624.00	1	0	44
112.00	1	0	10	345.00	1	0	27	638.40	1	0	44
117.00	1	0	10	348.48	1	0	27	638.40	1	0	44
133.00	1	0	11	369.20	1	0	28	642.20	1	0	45
140.40	1	0	11	372.40	1	0	28	661.20	1	0	45
152.00	1	0	11	374.40	1	0	28	662.40	1	0	45
156.00	2	1	12	376.20	1	0	29	671.60	1	0	46
160.00	1	0	12	378.00	2	1	29	672.00	1	0	46
163.20	1	0	13	378.00	1	0	30	676.60	1	0	46
164.50	1	0	13	380.00	1	0	30	684.60	1	0	47
168.00	1	0	13	384.80	1	0	31	689.00	1	0	47
171.00	1	0	14	389.20	1	0	31	693.00	1	0	47
176.40	1	0	14	395.20	2	1	32	694.71	1	0	48
179.20	1	0	14	400.40	1	0	32	695.52	1	0	48
182.00	1	0	15	408.00	1	0	32	699.84	1	0	48
192.60	1	0	15	416.24	1	0	33	700.00	1	0	49
193.80	1	0	15	421.20	1	0	33	702.00	1	0	49
207.00	1	0	16	425.00	1	0	33	721.28	1	0	49
216.00	1	0	16	431.20	1	0	34	722.00	1	0	50
216.63	1	0	16	437.40	1	0	34	740.00	1	0	50
224.00	2	1	17	456.00	1	0	34	748.80	1	0	51
224.40	1	0	18	462.00	1	0	35	760.00	1	0	51
230.00	1	0	18	468.00	1	0	35	774.00	2	1	52
232.00	1	0	18	498.40	1	0	35	774.60	1	0	52
232.50	1	0	19	504.00	1	0	36	777.60	1	0	52
237.90	1	0	19	504.00	1	0	36	788.80	1	0	53
243.80	1	0	19	516.80	1	0	36	798.75	1	0	53
250.60	1	0	20	520.00	1	0	37	835.20	1	0	53
252.00	1	0	20	525.00	1	0	37	840.00	2	1	54
257.60	1	0	20	534.40	1	0	38	843.20	1	0	54
260.00	1	0	21	540.80	1	0	38	858.00	1	0	55
275.00	1	0	21	546.00	1	0	38	868.80	1	0	55
280.00	1	0	21	547.20	1	0	39	871.20	1	0	55

AOTHER AREA: OTHER MATERIALS

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
873.60	1	0	56	1577.80	1	0	71	4160.00	1	0	86
875.52	1	0	56	1612.80	1	0	72	4402.20	1	0	86
910.00	1	0	56	1706.40	1	0	72	4425.00	1	0	87
910.80	1	0	57	1722.00	1	0	72	4594.48	1	0	87
930.00	1	0	57	1740.00	1	0	73	4700.00	1	0	87
950.40	1	0	58	1742.00	1	0	73	4700.80	1	0	88
961.80	1	0	58	1802.64	1	0	73	4736.00	1	0	88
970.00	1	0	58	1803.20	1	0	74	4760.00	1	0	88
972.00	1	0	59	1818.00	1	0	74	4926.60	1	0	89
984.40	1	0	59	1831.20	1	0	74	5100.00	1	0	89
989.00	1	0	59	1984.00	1	0	75	5148.00	1	0	89
994.40	1	0	60	1996.92	1	0	75	5164.80	1	0	90
1015.00	1	0	60	1999.20	1	0	75	5250.00	1	0	90
1027.00	1	0	60	2098.20	1	0	76	5511.04	1	0	91
1036.80	1	0	61	2131.50	1	0	76	5754.00	1	0	91
1045.20	1	0	61	2137.44	1	0	76	5878.40	1	0	91
1049.20	1	0	61	2162.40	1	0	77	6300.00	1	0	92
1055.70	1	0	62	2188.80	1	0	77	6570.24	1	0	92
1058.60	1	0	62	2198.40	1	0	78	6909.54	1	0	92
1080.00	1	0	62	2304.00	1	0	78	7056.00	1	0	93
1083.00	1	0	63	2324.08	1	0	78	7065.93	1	0	93
1148.14	1	0	63	2400.00	1	0	79	7212.78	1	0	93
1155.00	1	0	64	2528.00	1	0	79	7520.00	1	0	94
1178.00	1	0	64	2587.50	1	0	79	8000.00	1	0	94
1184.28	1	0	64	2660.00	1	0	80	8554.40	1	0	94
1190.00	1	0	65	2668.00	1	0	80	8629.92	1	0	95
1196.00	1	0	65	2679.60	1	0	80	8640.00	1	0	95
1200.00	1	0	65	2778.16	1	0	81	8645.00	1	0	95
1209.60	1	0	66	2788.00	1	0	81	8960.00	1	0	96
1248.00	1	0	66	2790.00	1	0	81	10200.00	1	0	96
1260.00	1	0	66	2835.00	1	0	82	11020.00	1	0	96
1314.00	2	1	67	2862.00	1	0	82	11050.00	1	0	97
1337.40	1	0	67	2895.60	1	0	82	11064.00	1	0	97
1382.40	2	1	68	2969.60	1	0	83	11318.40	1	0	98
1411.20	1	0	68	3150.00	1	0	83	14500.00	1	0	98
1441.50	1	0	69	3168.00	1	0	84	15862.00	1	0	98
1442.00	1	0	69	3231.14	1	0	84	17897.60	1	0	99
1472.00	1	0	69	3283.20	1	0	84	20416.00	1	0	99
1480.00	1	0	70	3467.20	1	0	85	24015.96	1	0	99
1496.00	1	0	70	3500.00	1	0	85	24480.00	1	0	100
1505.00	1	0	71	3725.00	1	0	85	55680.00	1	0	100
1549.80	1	0	71	3974.40	1	0	86				

AOTHER AREA: OTHER MATERIALS

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
226	1320	******************************
31	3972	****
10	6624	*
7	9276	*
4	11928	*
2	14580	
1	17232	
1	19884	
0	22536	
2	25188	
0	27840	
0	30492	
0	33144	
0	35796	
0	38448	
0	41100	
0	43752	
0	46404	
0	49056	
0	51708	
1	54360	

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0 80 160 240 320 400

HISTOGRAM FREQUENCY

MEAN	2184.842	STD ERR	278.016	MEDIAN	740.000
MODE	0.0	STD DEV	4693.445	VARIANCE	22028427.3
KURTOSIS	63.221	S E KURT	1.993	SKEWNESS	6.654
S E SKEW	.144	RANGE	55680.000	MINIMUM	0.0
MAXIMUM	55680.000	SUM	622679.960		

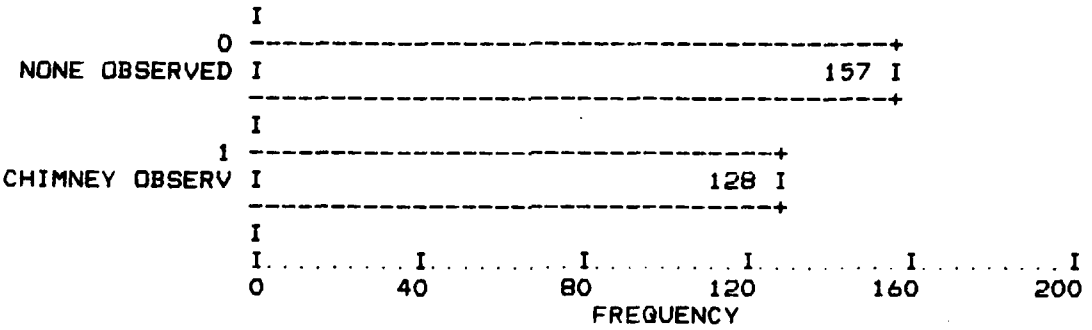
PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	115.000	25.00	328.000	33.30	426.476
50.00	740.000	66.70	1314.000	75.00	1998.060
90.00	5354.416				

VALID CASES	285	MISSING CASES	0

Roof materials

CHIM INDICATOR: CHIMNEYS

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE OBSERVED	0	157	55.1	55.1	55.1
CHIMNEY OBSERV	1	128	44.9	44.9	100.0
	TOTAL	285	100.0	100.0	



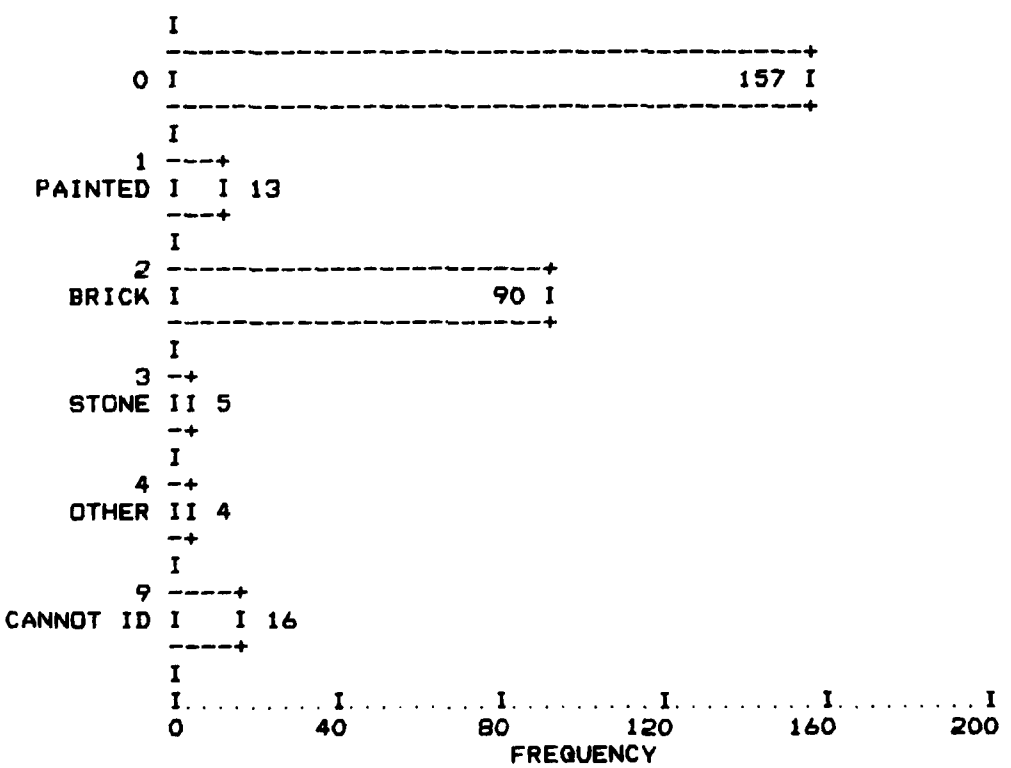
MEAN	.449	STD ERR	.030	MEDIAN	0.0
MODE	0.0	STD DEV	.498	VARIANCE	.248
KURTOSIS	-1.972	S E KURT	1.993	SKEWNESS	.206
S E SKEW	.144	RANGE	1.000	MINIMUM	0.0
MAXIMUM	1.000	SUM	128.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	1.000	75.00	1.000
90.00	1.000				

VALID CASES 285 MISSING CASES 0

CMAT CHIMNEY MATERIAL

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	157	55.1	55.1	55.1
PAINTED	1	13	4.6	4.6	59.6
BRICK	2	90	31.6	31.6	91.2
STONE	3	5	1.8	1.8	93.0
OTHER	4	4	1.4	1.4	94.4
CANNOT ID	9	16	5.6	5.6	100.0
	TOTAL	285	100.0	100.0	



MEAN	1.291	STD ERR	.127	MEDIAN	0.0
MODE	0.0	STD DEV	2.142	VARIANCE	4.587
KURTOSIS	6.746	S E KURT	1.993	SKEWNESS	2.572
S E SKEW	.144	RANGE	9.000	MINIMUM	0.0
MAXIMUM	9.000	SUM	368.000		

CMAT CHIMNEY MATERIAL

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	2.000	75.00	2.000
90.00	2.000				

VALID CASES 285 MISSING CASES 0

CAREA EXPOSED CHIMNEY AREA

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
0	157	55	55	44	1	0	79	144	1	0	92
3	1	0	55	45	1	0	80	150	1	0	92
4	2	1	56	48	5	2	81	160	1	0	92
5	1	0	56	50	3	1	82	176	1	0	93
6	4	1	58	54	1	0	83	180	3	1	94
8	5	2	60	56	1	0	83	192	1	0	94
10	2	1	60	58	1	0	84	200	1	0	94
12	9	3	64	60	1	0	84	230	1	0	95
14	1	0	64	63	1	0	84	240	1	0	95
15	1	0	64	64	2	1	85	272	1	0	95
16	9	3	67	70	1	0	85	318	1	0	96
17	1	0	68	72	1	0	86	424	1	0	96
18	2	1	68	80	2	1	86	450	2	1	97
20	6	2	71	88	2	1	87	480	2	1	98
24	9	3	74	90	1	0	87	768	2	1	98
28	2	1	74	92	2	1	88	962	1	0	99
30	5	2	76	96	3	1	89	1200	1	0	99
32	3	1	77	100	1	0	89	1408	1	0	99
36	1	0	78	110	1	0	90	2680	1	0	100
40	3	1	79	120	3	1	91	4320	1	0	100
42	1	0	79	140	1	0	91				

CAREA EXPOSED CHIMNEY AREA

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
269	100	**********
4	306	*
5	512	*
2	718	
1	924	
1	1130	
1	1336	
0	1542	
0	1748	
0	1954	
0	2160	
0	2366	
0	2572	
1	2778	
0	2984	
0	3190	
0	3396	
0	3602	
0	3808	
0	4014	
1	4220	

I....+....I....+....I....+....I....+....I....+....I
0 80 160 240 320 400

HISTOGRAM FREQUENCY

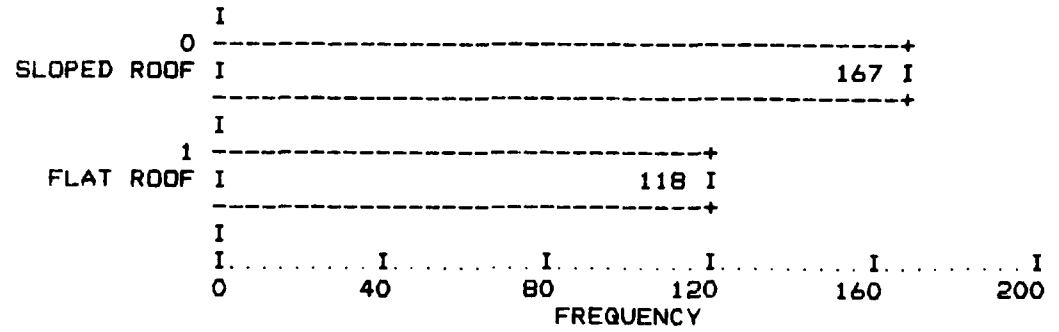
MEAN	73.439	STD ERR	19.788	MEDIAN	0.0
MODE	0.0	STD DEV	334.068	VARIANCE	111601.141
KURTOSIS	105.929	S E KURT	1.993	SKEWNESS	9.484
S E SKEW	.144	RANGE	4320.000	MINIMUM	0.0
MAXIMUM	4320.000	SUM	20930.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	16.000	75.00	30.000
90.00	120.000				

VALID CASES	285	MISSING CASES	0

SLOPE INDICATOR: ROOF SLOPE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
SLOPED ROOF	0	167	58.6	58.6	58.6
FLAT ROOF	1	118	41.4	41.4	100.0
	TOTAL	285	100.0	100.0	



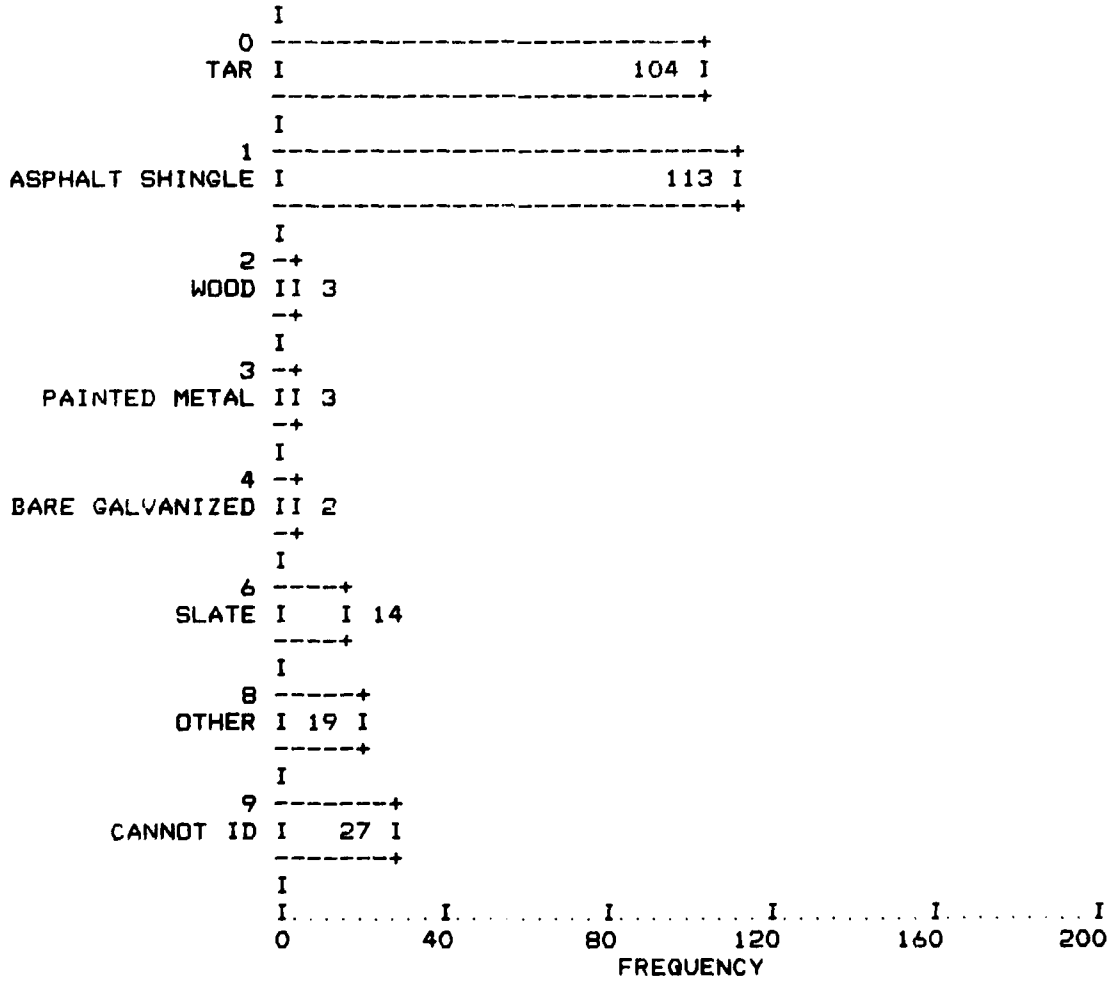
MEAN	.414	STD ERR	.029	MEDIAN	0.0
MODE	0.0	STD DEV	.493	VARIANCE	.243
KURTOSIS	-1.890	S E KURT	1.993	SKEWNESS	.351
S E SKEW	.144	RANGE	1.000	MINIMUM	0.0
MAXIMUM	1.000	SUM	118.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	1.000	75.00	1.000
90.00	1.000				

VALID CASES	285	MISSING CASES	0

ERMAT ROOF MATERIAL TYPE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
TAR	0	104	36.5	36.5	36.5
ASPHALT SHINGLE	1	113	39.6	39.6	76.1
WOOD	2	3	1.1	1.1	77.2
PAINTED METAL	3	3	1.1	1.1	78.2
BARE GALVANIZED	4	2	.7	.7	78.9
SLATE	6	14	4.9	4.9	83.9
OTHER	8	19	6.7	6.7	90.5
CANNOT ID	9	27	9.5	9.5	100.0
	TOTAL	285	100.0	100.0	



ERMAT ROOF MATERIAL TYPE

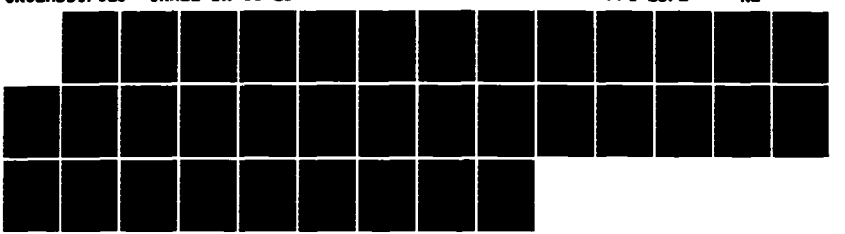
MEAN	2.158	STD ERR	.185	MEDIAN	1.000
MODE	1.000	STD DEV	3.120	VARIANCE	9.732
KURTOSIS	.265	S E KURT	1.993	SKEWNESS	1.404
S E SKEW	.144	RANGE	9.000	MINIMUM	0.0
MAXIMUM	9.000	SUM	615.000		

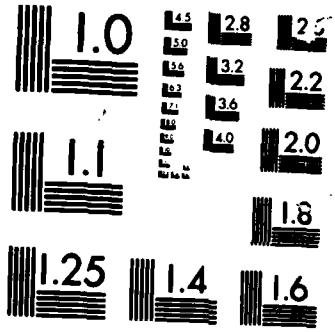
PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	1.000	66.70	1.000	75.00	1.000
90.00	8.000				

VALID CASES	285	MISSING CASES	0

AD-A166 457 A DESCRIPTION OF THE BUILDING MATERIALS DATA BASE FOR NEW HAVEN CONNECTICUT(U) COLD REGIONS RESEARCH AND ENGINEERING LAB HANOVER NH C J MERRY ET AL. NOV 85 2/2

UNCLASSIFIED CRREL-SR-85-19 F/G 13/2 NL





MICROCOPY RESOLUTION TEST CHART

ESAREA AREA OF EXPOSED ROOF

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
12	1	0	0	1741	1	0	30	5144	1	0	64
96	1	0	1	1750	1	0	31	5280	1	0	64
102	1	0	1	1800	8	3	33	5334	1	0	65
110	1	0	1	1806	1	0	34	5370	1	0	65
250	1	0	2	1900	1	0	34	5500	1	0	65
300	1	0	2	2000	1	0	34	5600	2	1	66
320	1	0	2	2040	1	0	35	5750	1	0	66
400	2	1	3	2100	5	2	36	5763	1	0	67
450	1	0	4	2110	1	0	37	5800	1	0	67
456	1	0	4	2200	1	0	37	5836	1	0	67
540	1	0	4	2250	1	0	38	5850	1	0	68
560	2	1	5	2300	3	1	39	5889	1	0	68
590	1	0	5	2400	6	2	41	6372	1	0	68
672	2	1	6	2450	1	0	41	6400	1	0	69
750	2	1	7	2500	3	1	42	6500	2	1	69
800	5	2	8	2600	1	0	42	6540	1	0	70
810	1	0	9	2700	2	1	43	6655	1	0	70
825	1	0	9	2720	1	0	44	6656	1	0	71
840	2	1	10	2800	4	1	45	6660	1	0	71
850	1	0	10	2900	1	0	45	6887	1	0	71
900	1	0	11	3000	8	3	48	7000	1	0	72
960	1	0	11	3100	1	0	48	7156	1	0	72
1000	3	1	12	3150	1	0	49	7396	1	0	72
1050	2	1	13	3200	4	1	50	7500	1	0	73
1100	1	0	13	3250	1	0	51	7550	1	0	73
1120	1	0	13	3300	1	0	51	7569	1	0	73
1200	9	3	16	3400	6	2	53	8000	1	0	74
1225	2	1	17	3500	2	1	54	8100	3	1	75
1250	1	0	18	3600	3	1	55	8320	1	0	75
1300	4	1	19	3680	1	0	55	8632	1	0	75
1312	1	0	19	3700	1	0	55	8985	1	0	76
1350	1	0	20	3850	1	0	56	9000	1	0	76
1392	1	0	20	3915	1	0	56	9016	1	0	76
1400	6	2	22	3920	1	0	56	9025	2	1	77
1408	1	0	22	3960	1	0	57	9200	1	0	78
1440	1	0	23	4000	5	2	59	9304	1	0	78
1470	2	1	24	4125	1	0	59	9661	1	0	78
1483	1	0	24	4300	1	0	59	9852	1	0	79
1500	6	2	26	4400	1	0	60	9975	2	1	79
1550	1	0	26	4460	1	0	60	10056	1	0	80
1600	3	1	27	4500	2	1	61	10800	1	0	80
1608	1	0	28	4700	2	1	61	10900	1	0	80
1680	1	0	28	4800	2	1	62	10948	1	0	81
1697	1	0	28	4889	1	0	62	11504	1	0	81
1700	3	1	29	5000	2	1	63	11520	1	0	81
1733	1	0	30	5143	1	0	64	11807	1	0	82

ESAREA AREA OF EXPOSED ROOF

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
11834	1	0	82	19321	3	1	88	65347	1	0	94
11887	1	0	82	20000	1	0	88	66000	1	0	95
13350	1	0	83	22000	1	0	89	67200	2	1	95
13700	1	0	83	23500	1	0	89	68000	1	0	96
13844	1	0	84	25000	1	0	89	78400	1	0	96
14000	1	0	84	25500	1	0	90	78500	1	0	96
14247	1	0	84	30000	2	1	91	79695	1	0	97
14803	1	0	85	31000	1	0	91	81000	1	0	97
14897	1	0	85	33912	1	0	91	94000	1	0	98
15000	1	0	85	34000	2	1	92	95000	1	0	98
16090	1	0	86	45288	1	0	92	104940	1	0	98
17000	1	0	86	48620	1	0	93	107100	2	1	99
17335	1	0	86	58000	1	0	93	129000	1	0	99
18700	1	0	87	58410	1	0	93	129943	1	0	100
19101	1	0	87	62500	2	1	94	185000	1	0	100

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
215	4416	**************************
31	13225	****
10	22034	*
6	30843	*
0	39652	
2	48461	
2	57270	
7	66079	*
2	74888	
2	83697	
2	92506	
1	101315	
2	110124	
0	118933	
2	127742	
0	136551	
0	145360	
0	154169	
0	162978	
0	171787	
1	180596	

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0 80 160 240 320 400
HISTOGRAM FREQUENCY

ESAREA AREA OF EXPOSED ROOF

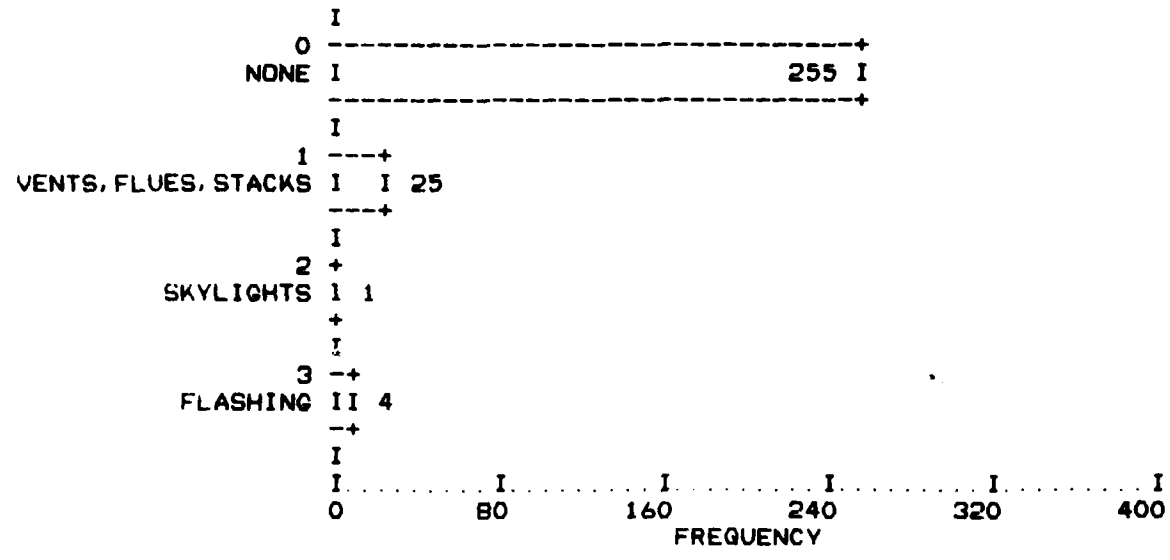
MEAN	11663.526	STD ERR	1428.989	MEDIAN	3200.000
MODE	1200.000	STD DEV	24124.117	VARIANCE	581973009
KURTOSIS	15.901	S E KURT	1.993	SKEWNESS	3.711
S E SKEW	.144	RANGE	184988.000	MINIMUM	12.000
MAXIMUM	185000.000	SUM	3324105.00		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	846.000	25.00	1500.000	33.30	1801.428
50.00	3200.000	66.70	5791.194	75.00	8476.000
90.00	30000.000				

VALID CASES	285	MISSING CASES	0

APP INDICATOR: ROOF APPARATUS

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	255	89.5	89.5	89.5
VENTS, FLUES, STACKS	1	25	8.8	8.8	98.2
SKYLIGHTS	2	1	.4	.4	98.6
FLASHING	3	4	1.4	1.4	100.0
	TOTAL	285	100.0	100.0	



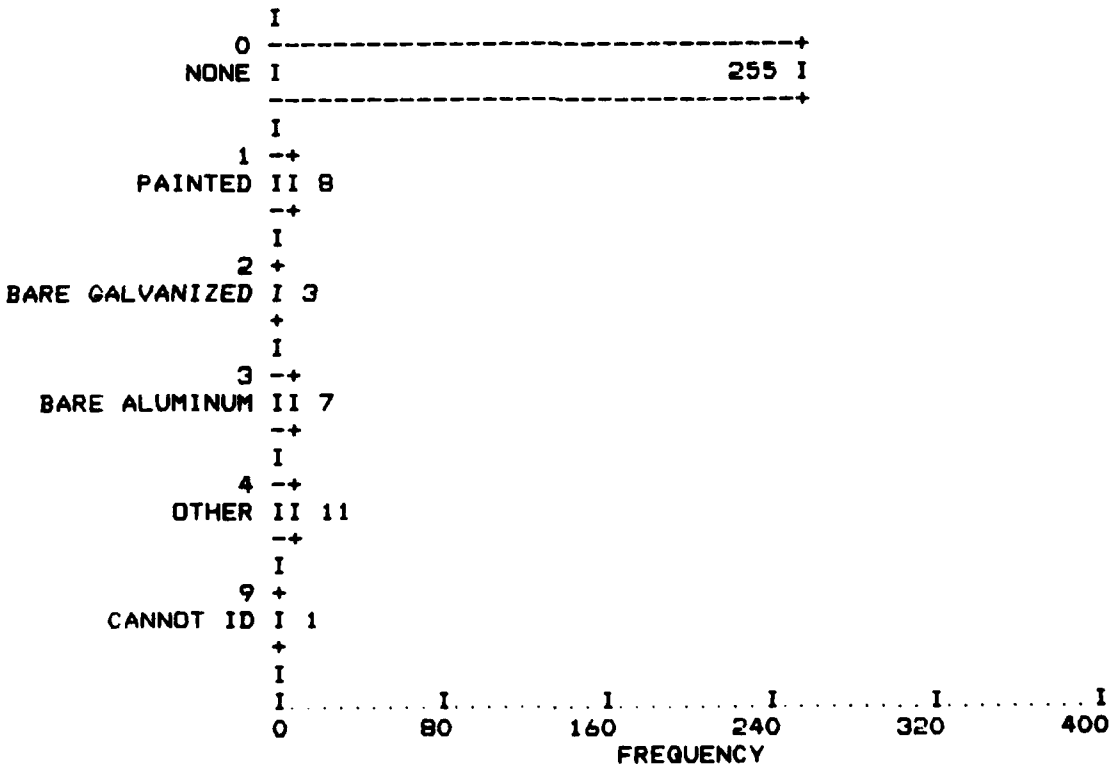
MEAN	.137	STD ERR	.027	MEDIAN	0.0
MODE	0.0	STD DEV	.458	VARIANCE	.210
KURTOSIS	20.992	S E KURT	1.993	SKEWNESS	4.264
S E SKEW	.144	RANGE	3.000	MINIMUM	0.0
MAXIMUM	3.000	SUM	39.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	1.000				

VALID CASES 285 MISSING CASES 0

RMAT ROOF APP MATERIAL

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	255	89.5	89.5	89.5
PAINTED	1	8	2.8	2.8	92.3
BARE GALVANIZED	2	3	1.1	1.1	93.3
BARE ALUMINUM	3	7	2.5	2.5	95.8
OTHER	4	11	3.9	3.9	99.6
CANNOT ID	9	1	.4	.4	100.0
	TOTAL	285	100.0	100.0	



MEAN	.309	STD ERR	.062	MEDIAN	0.0
MODE	0.0	STD DEV	1.050	VARIANCE	1.102
KURTOSIS	21.107	S E KURT	1.993	SKEWNESS	4.159
S E SKEW	.144	RANGE	9.000	MINIMUM	0.0
MAXIMUM	9.000	SUM	88.000		

RMAT ROOF APP MATERIAL

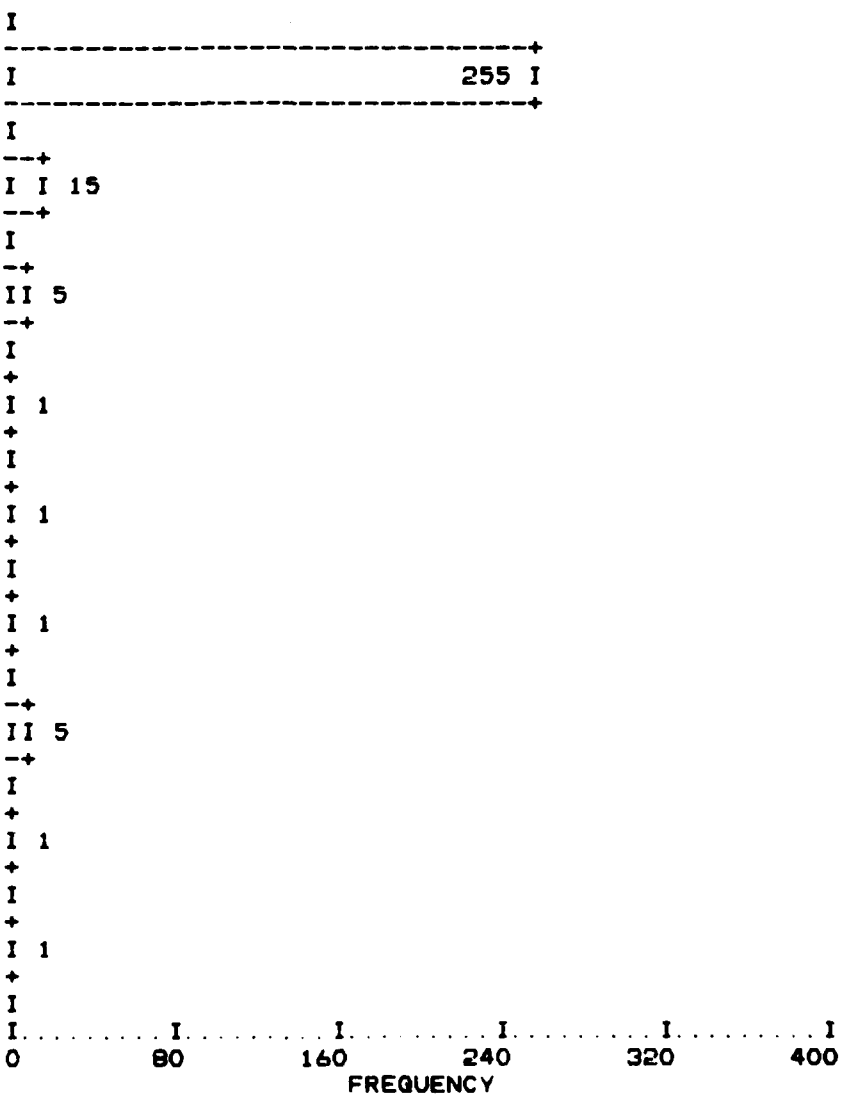
PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	1.000				

VALID CASES 285 MISSING CASES 0

ITEMS NO OF ROOF APP ITEMS

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	255	89.5	89.5	89.5
	1	15	5.3	5.3	94.7
	2	5	1.8	1.8	96.5
	4	1	.4	.4	96.8
	8	1	.4	.4	97.2
	9	1	.4	.4	97.5
	10	5	1.8	1.8	99.3
	13	1	.4	.4	99.6
	23	1	.4	.4	100.0
	TOTAL	285	100.0	100.0	

ITEMS NO OF ROOF APP ITEMS



MEAN	.463	STD ERR	.128	MEDIAN	0.0
MODE	0.0	STD DEV	2.166	VARIANCE	4.693
KURTOSIS	51.302	S E KURT	1.993	SKEWNESS	6.572
S E SKEW	.144	RANGE	23.000	MINIMUM	0.0
MAXIMUM	23.000	SUM	132.000		

Rain gutters, downspouts, fences and other accessories

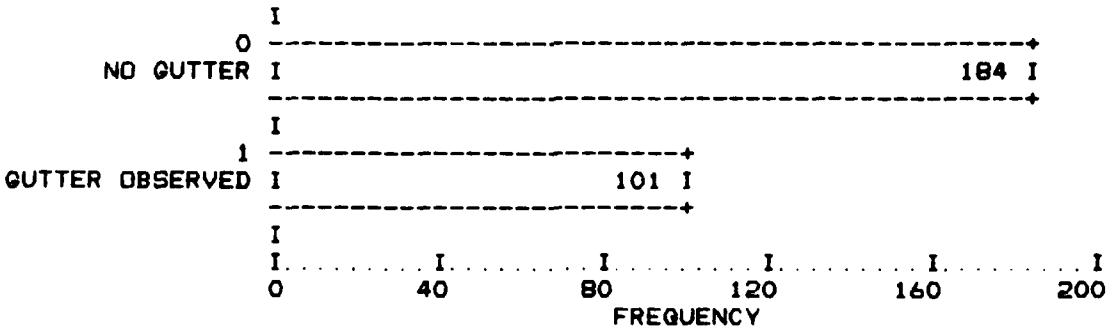
ITEMS NO OF ROOF APP ITEMS

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	1.000				

VALID CASES 285 MISSING CASES 0

RGUT INDICATOR: RAIN GUTTERS

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NO GUTTER	0	184	64.6	64.6	64.6
GUTTER OBSERVED	1	101	35.4	35.4	100.0
	TOTAL	285	100.0	100.0	



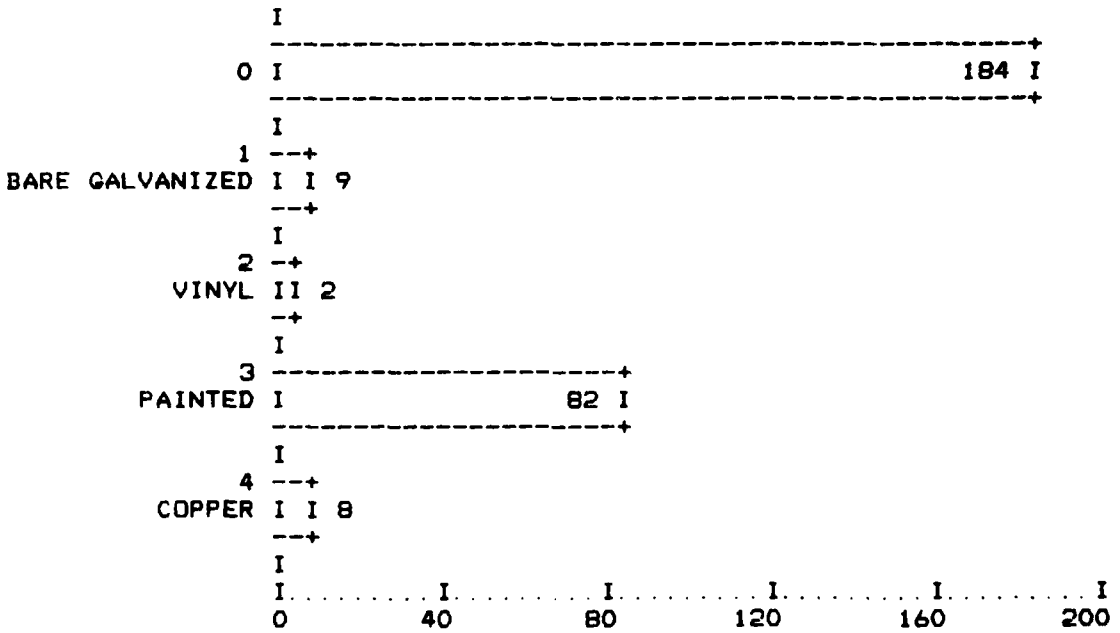
MEAN	.354	STD ERR	.028	MEDIAN	0.0
MODE	0.0	STD DEV	.479	VARIANCE	.230
KURTOSIS	-1.637	S E KURT	1.993	SKEWNESS	.612
S E SKEW	.144	RANGE	1.000	MINIMUM	0.0
MAXIMUM	1.000	SUM	101.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	1.000	75.00	1.000
90.00	1.000				

VALID CASES 285 MISSING CASES 0

RGMAT RAIN GUTTER MATERIAL

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	184	64.6	64.6	64.6
BARE GALVANIZED	1	9	3.2	3.2	67.7
VINYL	2	2	.7	.7	68.4
PAINTED	3	82	28.8	28.8	97.2
COPPER	4	8	2.8	2.8	100.0
	TOTAL	285	100.0	100.0	



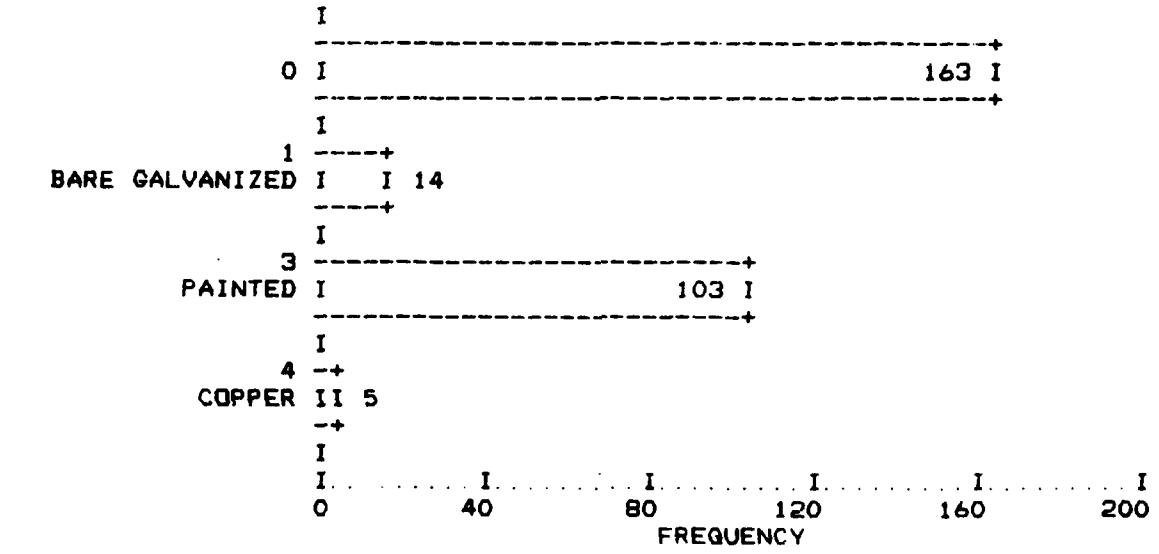
MEAN	1.021	STD ERR	.085	MEDIAN	0.0
MODE	0.0	STD DEV	1.436	VARIANCE	2.063
KURTOSIS	-1.266	S E KURT	1.993	SKEWNESS	.781
S E SKEW	.144	RANGE	4.000	MINIMUM	0.0
MAXIMUM	4.000	SUM	291.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	1.000	75.00	3.000
90.00	3.000				

VALID CASES	285	MISSING CASES	0

DSPOUT MATERIAL OF DOWNSPOUT

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	163	57.2	57.2	57.2
BARE GALVANIZED	1	14	4.9	4.9	62.1
PAINTED	3	103	36.1	36.1	98.2
COPPER	4	5	1.8	1.8	100.0
	TOTAL	285	100.0	100.0	



MEAN	1.204	STD ERR	.087	MEDIAN	0.0
MODE	0.0	STD DEV	1.463	VARIANCE	2.142
KURTOSIS	-1.683	S E KURT	1.993	SKEWNESS	.478
S E SKEW	.144	RANGE	4.000	MINIMUM	0.0
MAXIMUM	4.000	SUM	343.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	3.000	75.00	3.000
90.00	3.000				

VALID CASES	285	MISSING CASES	0

DSLENG DOWNSPOUT LENGTH

VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT	VALUE	FREQ	PCT	CUM PCT
0	163	57	57	37	1	0	77	100	1	0	94
10	3	1	58	40	15	5	82	102	1	0	94
12	2	1	59	41	1	0	82	120	3	1	95
15	2	1	60	45	3	1	84	128	1	0	95
16	2	1	60	50	7	2	86	134	1	0	96
18	1	0	61	55	1	0	86	140	1	0	96
20	11	4	65	56	1	0	87	150	1	0	96
24	1	0	65	60	7	2	89	170	1	0	97
25	8	3	68	64	1	0	89	180	1	0	97
27	1	0	68	65	1	0	90	192	1	0	98
28	1	0	68	78	1	0	90	200	2	1	98
29	1	0	69	80	5	2	92	212	1	0	99
30	14	5	74	90	1	0	92	300	1	0	99
32	2	1	74	95	1	0	93	360	1	0	99
35	3	1	75	96	1	0	93	375	1	0	100
36	3	1	76	98	1	0	93	999	1	0	100

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
235	20	******************************
28	68	****
10	116	*
4	164	*
4	212	*
0	260	
1	308	
2	356	
0	404	
0	452	
0	500	
0	548	
0	596	
0	644	
0	692	
0	740	
0	788	
0	836	
0	884	
0	932	
1	980	

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0 80 160 240 320 400

HISTOGRAM FREQUENCY

DSLENG DOWNSPOUT LENGTH

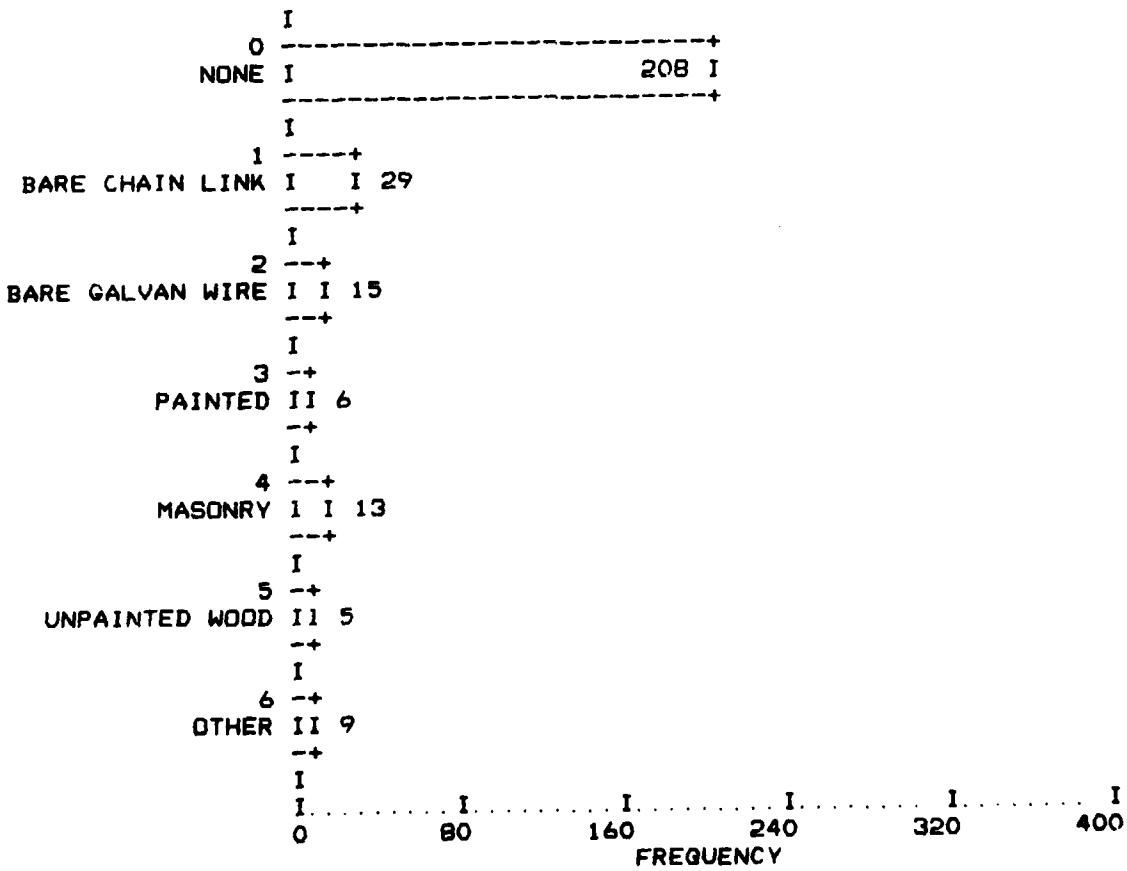
MEAN	29.267	STD ERR	4.553	MEDIAN	0.0
MODE	0.0	STD DEV	76.867	VARIANCE	5908.506
KURTOSIS	91.891	S E KURT	1.993	SKEWNESS	8.137
S E SKEW	.144	RANGE	999.000	MINIMUM	0.0
MAXIMUM	999.000	SUM	8341.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	25.000	75.00	35.000
90.00	78.800				

VALID CASES	285	MISSING CASES	0

FENCE FENCE TYPE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	208	73.0	73.0	73.0
BARE CHAIN LINK	1	29	10.2	10.2	83.2
BARE GALVAN WIRE	2	15	5.3	5.3	88.4
PAINTED	3	6	2.1	2.1	90.5
MASONRY	4	13	4.6	4.6	95.1
UNPAINTED WOOD	5	5	1.8	1.8	96.8
OTHER	6	9	3.2	3.2	100.0
	TOTAL	285	100.0	100.0	



FENCE FENCE TYPE

MEAN	.730	STD ERR	.089	MEDIAN	0.0
MODE	0.0	STD DEV	1.511	VARIANCE	2.282
KURTOSIS	4.113	S E KURT	1.993	SKEWNESS	2.244
S E SKEW	.144	RANGE	6.000	MINIMUM	0.0
MAXIMUM	6.000	SUM	208.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	1.000
90.00	3.000				

VALID CASES	285	MISSING CASES	0

FLENG FENCE LENGTH

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	208	73.0	73.0	73.0
	4	1	.4	.4	73.3
	8	1	.4	.4	73.7
	10	1	.4	.4	74.0
	12	1	.4	.4	74.4
	15	1	.4	.4	74.7
	17	2	.7	.7	75.4
	18	1	.4	.4	75.8
	20	6	2.1	2.1	77.9
	25	2	.7	.7	78.6
	30	4	1.4	1.4	80.0
	40	2	.7	.7	80.7
	43	1	.4	.4	81.1
	50	5	1.8	1.8	82.8
	55	1	.4	.4	83.2
	60	7	2.5	2.5	85.6
	80	4	1.4	1.4	87.0
	100	6	2.1	2.1	89.1
	120	7	2.5	2.5	91.6
	140	1	.4	.4	91.9
	144	1	.4	.4	92.3
	150	2	.7	.7	93.0
	200	1	.4	.4	93.3
	230	1	.4	.4	93.7
	250	1	.4	.4	94.0
	260	1	.4	.4	94.4
	268	1	.4	.4	94.7
	270	1	.4	.4	95.1
	300	4	1.4	1.4	96.5
	301	1	.4	.4	96.8
	400	1	.4	.4	97.2
	460	1	.4	.4	97.5
	500	1	.4	.4	97.9
	600	2	.7	.7	98.6
	700	1	.4	.4	98.9
	800	1	.4	.4	99.3
	900	2	.7	.7	100.0
	TOTAL	285	100.0	100.0	

FLENG FENCE LENGTH

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
230	20	**********
18	63	**
13	106	**
4	149	*
1	192	
2	235	
3	278	
5	321	*
0	364	
1	407	
1	450	
1	493	
0	536	
2	579	
0	622	
0	665	
1	708	
0	751	
1	794	
0	837	
2	880	

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0 80 160 240 320 400
HISTOGRAM FREQUENCY

MEAN	43.586	STD ERR	7.616	MEDIAN	0.0
MODE	0.0	STD DEV	128.572	VARIANCE	16530.673
KURTOSIS	22.031	S E KURT	1.993	SKEWNESS	4.433
S E SKEW	.144	RANGE	900.000	MINIMUM	0.0
MAXIMUM	900.000	SUM	12422.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	17.000
90.00	120.000				

VALID CASES	285	MISSING CASES	0

FHT FENCE HEIGHT

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	208	73.0	73.0	73.0
	2	7	2.5	2.5	75.4
	3	35	12.3	12.3	87.7
	4	8	2.8	2.8	90.5
	5	7	2.5	2.5	93.0
	6	13	4.6	4.6	97.5
	7	1	.4	.4	97.9
	8	1	.4	.4	98.2
	9	1	.4	.4	98.6
	10	2	.7	.7	99.3
	12	1	.4	.4	99.6
	30	1	.4	.4	100.0
	TOTAL	285	100.0	100.0	

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
208	0.0	**************************
7	1.5	*
35	3.0	****
15	4.5	**
13	6.0	**
2	7.5	
1	9.0	
2	10.5	
1	12.0	
0	13.5	
0	15.0	
0	16.5	
0	18.0	
0	19.5	
0	21.0	
0	22.5	
0	24.0	
0	25.5	
0	27.0	
0	28.5	
1	30.0	

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0 80 160 240 320 400
HISTOGRAM FREQUENCY

FHT FENCE HEIGHT

MEAN	1.228	STD ERR	.162	MEDIAN	0.0
MODE	0.0	STD DEV	2.734	VARIANCE	7.472
KURTOSIS	43.786	S E KURT	1.993	SKEWNESS	5.062
S E SKEW	.144	RANGE	30.000	MINIMUM	0.0
MAXIMUM	30.000	SUM	350.000		

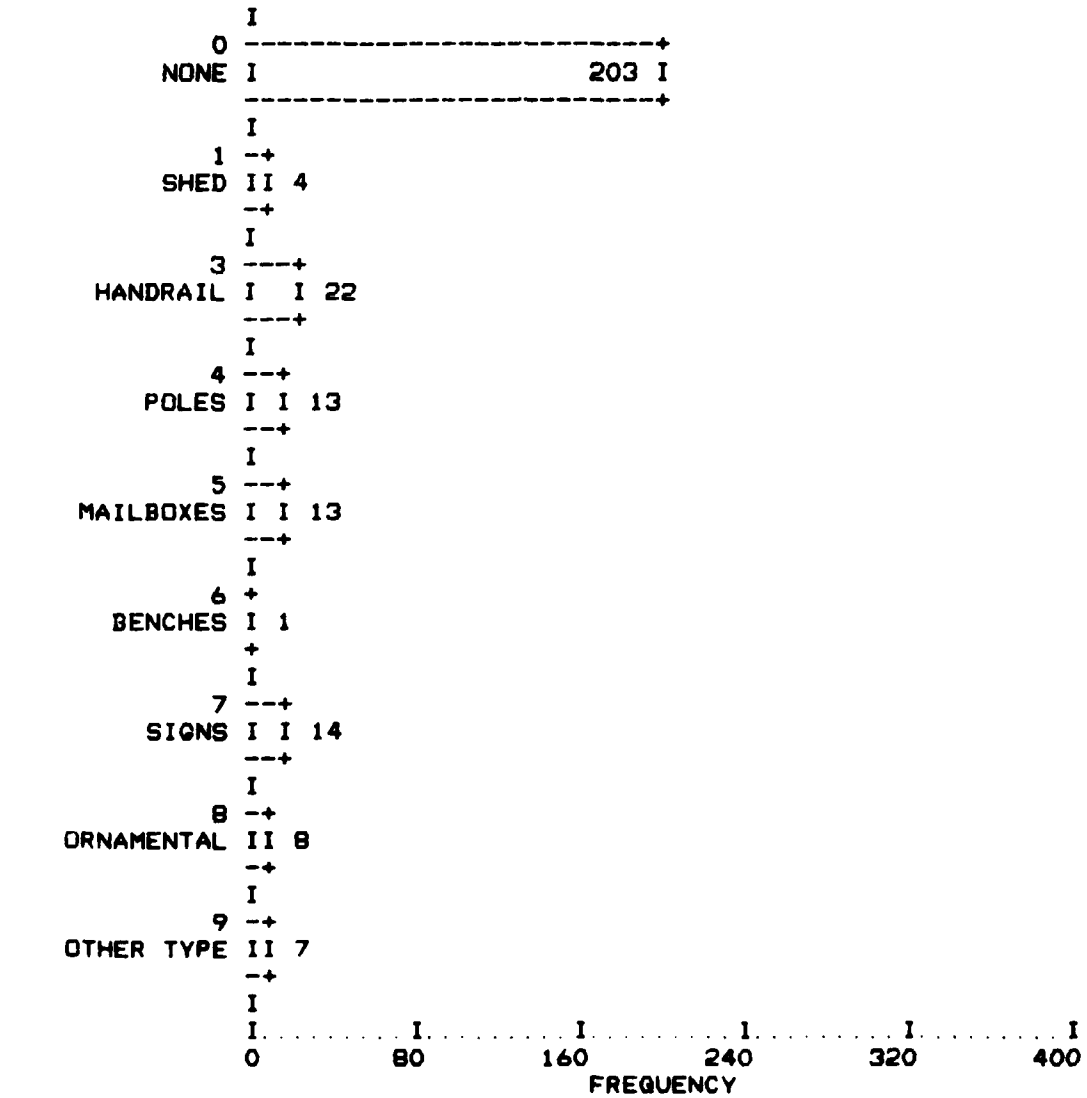
PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	2.000
90.00	4.000				

VALID CASES 285 MISSING CASES 0

ACCESS1 FIRST ACCESS TYPE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	203	71.2	71.2	71.2
SHED	1	4	1.4	1.4	72.6
HANDRAIL	3	22	7.7	7.7	80.4
POLES	4	13	4.6	4.6	84.9
MAILBOXES	5	13	4.6	4.6	89.5
BENCHES	6	1	.4	.4	89.8
SIGNS	7	14	4.9	4.9	94.7
ORNAMENTAL	8	8	2.8	2.8	97.5
OTHER TYPE	9	7	2.5	2.5	100.0
	TOTAL	285	100.0	100.0	

ACCESS1 FIRST ACCESS TYPE



MEAN	1.467	STD ERR	.154	MEDIAN	0.0
MODE	0.0	STD DEV	2.602	VARIANCE	6.771
KURTOSIS	1.227	S E KURT	1.993	SKEWNESS	1.592
S E SKEW	.144	RANGE	9.000	MINIMUM	0.0
MAXIMUM	9.000	SUM	418.000		

ACCESS1 FIRST ACCESS TYPE

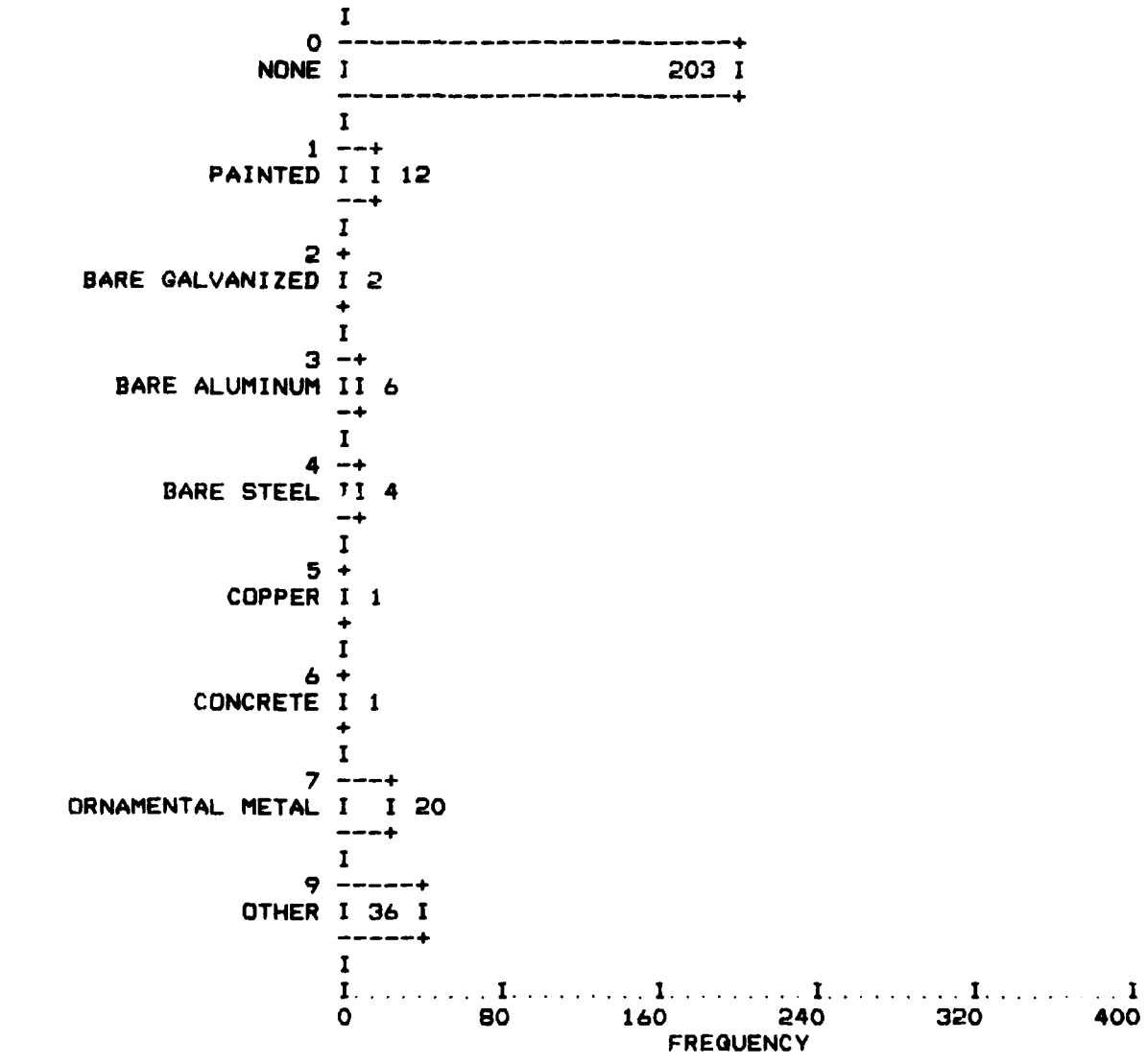
PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	3.000
90.00	7.000				

VALID CASES 285 MISSING CASES 0

AMAT1 FIRST ACCESS MATERIAL

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	203	71.2	71.2	71.2
PAINTED	1	12	4.2	4.2	75.4
BARE GALVANIZED	2	2	.7	.7	76.1
BARE ALUMINUM	3	6	2.1	2.1	78.2
BARE STEEL	4	4	1.4	1.4	79.6
COPPER	5	1	.4	.4	80.0
CONCRETE	6	1	.4	.4	80.4
ORNAMENTAL METAL	7	20	7.0	7.0	87.4
OTHER	9	36	12.6	12.6	100.0
	TOTAL	285	100.0	100.0	

AMAT1 FIRST ACCESS MATERIAL



MEAN	1.842	STD ERR	.197	MEDIAN	0.0
MODE	0.0	STD DEV	3.319	VARIANCE	11.014
KURTOSIS	.274	S E KURT	1.993	SKEWNESS	1.438
S E SKEW	.144	RANGE	9.000	MINIMUM	0.0
MAXIMUM	9.000	SUM	525.000		

AMAT1 FIRST ACCESS MATERIAL

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	1.000
90.00	9.000				

VALID CASES 285 MISSING CASES 0

AAREA1 FIRST ACCESS AREA

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	203	71.2	71.2	71.2
	2	12	4.2	4.2	75.4
	4	1	.4	.4	75.8
	5	1	.4	.4	76.1
	6	1	.4	.4	76.5
	10	6	2.1	2.1	78.6
	12	1	.4	.4	78.9
	15	2	.7	.7	79.6
	16	3	1.1	1.1	80.7
	20	4	1.4	1.4	82.1
	24	4	1.4	1.4	83.5
	30	9	3.2	3.2	86.7
	32	2	.7	.7	87.4
	35	1	.4	.4	87.7
	36	1	.4	.4	88.1
	40	1	.4	.4	88.4
	45	1	.4	.4	88.8
	48	1	.4	.4	89.1
	50	4	1.4	1.4	90.5
	52	1	.4	.4	90.9
	54	1	.4	.4	91.2
	60	2	.7	.7	91.9
	64	1	.4	.4	92.3
	70	1	.4	.4	92.6
	80	1	.4	.4	93.0
	90	1	.4	.4	93.3
	100	2	.7	.7	94.0
	110	1	.4	.4	94.4
	115	1	.4	.4	94.7
	150	1	.4	.4	95.1
	180	1	.4	.4	95.4
	200	2	.7	.7	96.1
	260	1	.4	.4	96.5
	300	2	.7	.7	97.2
	400	1	.4	.4	97.5
	500	1	.4	.4	97.9
	600	2	.7	.7	98.6
	630	1	.4	.4	98.9
	640	1	.4	.4	99.3
	2400	2	.7	.7	100.0
	TOTAL	285	100.0	100.0	

AAREA1 FIRST ACCESS AREA

COUNT	MIDPOINT	ONE SYMBOL EQUALS APPROXIMATELY 8.00 OCCURRENCES
268	50	**********
6	165	*
3	280	
1	395	
1	510	
4	625	*
0	740	
0	855	
0	970	
0	1085	
0	1200	
0	1315	
0	1430	
0	1545	
0	1660	
0	1775	
0	1890	
0	2005	
0	2120	
0	2235	
2	2350	

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0 80 160 240 320 400
HISTOGRAM FREQUENCY

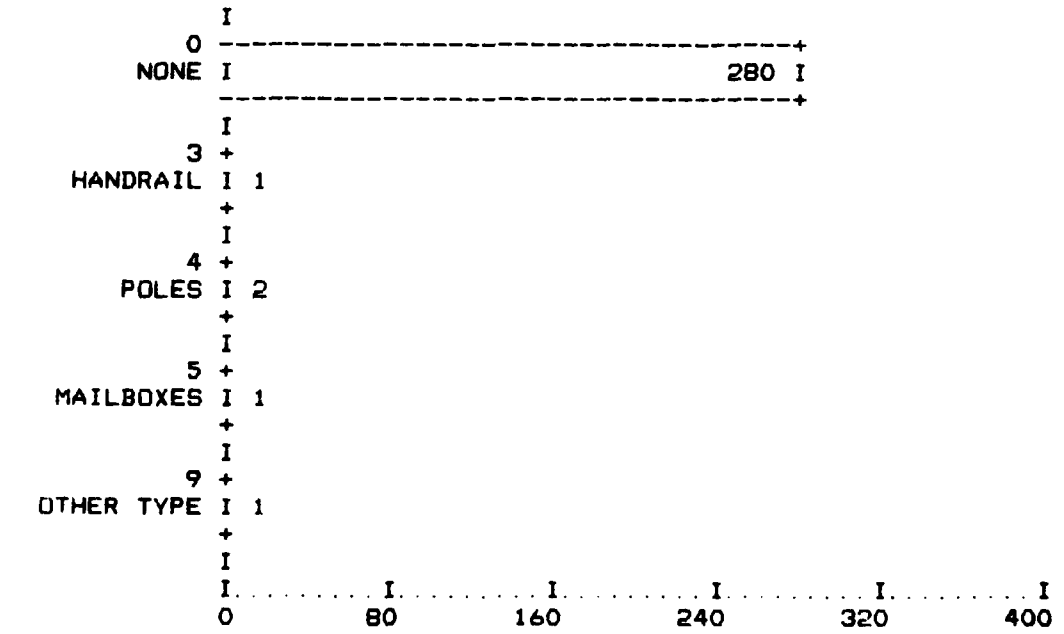
MEAN	41.467	STD ERR	12.898	MEDIAN	0.0
MODE	0.0	STD DEV	217.744	VARIANCE	47412.595
KURTOSIS	96.803	S E KURT	1.993	SKEWNESS	9.340
S E SKEW	.144	RANGE	2400.000	MINIMUM	0.0
MAXIMUM	2400.000	SUM	11818.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	2.000
90.00	50.000				

VALID CASES	285	MISSING CASES	0

ACCESS2 SECOND ACCESS TYPE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	280	98.2	98.2	98.2
HANDRAIL	3	1	.4	.4	98.6
POLES	4	2	.7	.7	99.3
MAILBOXES	5	1	.4	.4	99.6
OTHER TYPE	9	1	.4	.4	100.0
	TOTAL	285	100.0	100.0	



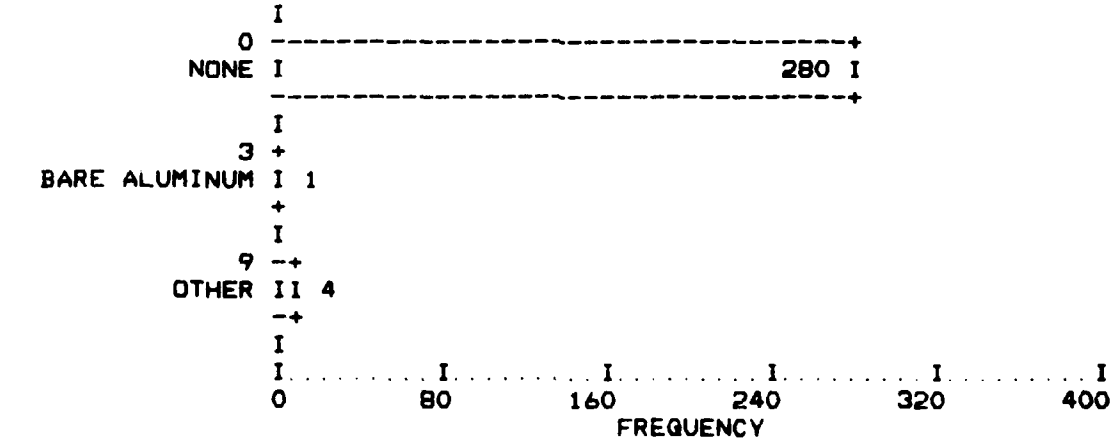
MEAN	.088	STD ERR	.042	MEDIAN	0.0
MODE	0.0	STD DEV	.714	VARIANCE	.510
KURTOSIS	99.770	S E KURT	1.993	SKEWNESS	9.454
S E SKEW	.144	RANGE	9.000	MINIMUM	0.0
MAXIMUM	9.000	SUM	25.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AMAT2 SECOND ACCESS MATERIAL

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	280	98.2	98.2	98.2
BARE ALUMINUM	3	1	.4	.4	98.6
OTHER	9	4	1.4	1.4	100.0
	TOTAL	285	100.0	100.0	



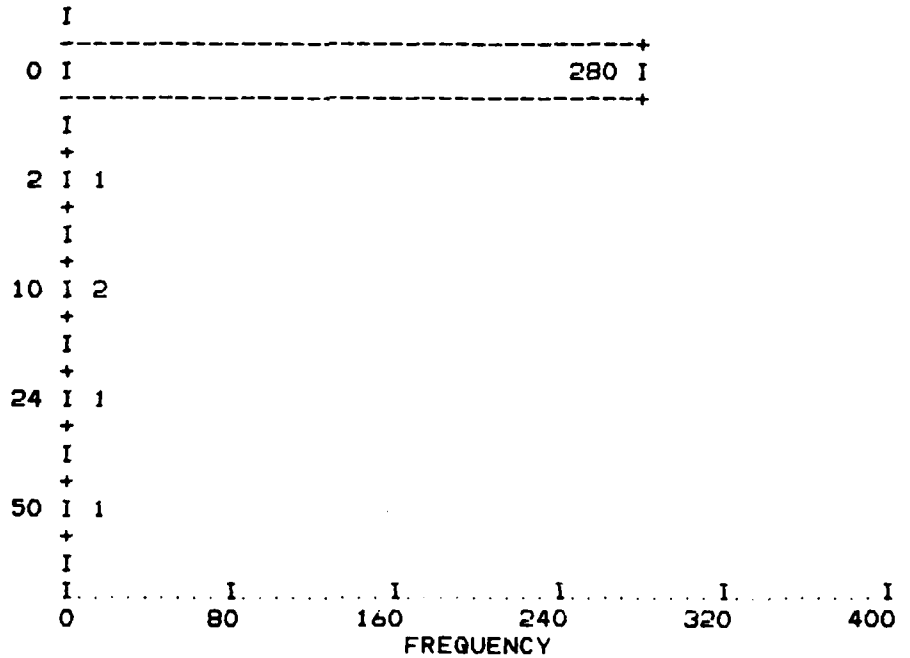
MEAN	.137	STD ERR	.064	MEDIAN	0.0
MODE	0.0	STD DEV	1.074	VARIANCE	1.154
KURTOSIS	63.839	S E KURT	1.993	SKEWNESS	8.034
S E SKEW	.144	RANGE	9.000	MINIMUM	0.0
MAXIMUM	9.000	SUM	39.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AAREA2 SECOND ACCESS AREA

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	280	98.2	98.2	98.2
	2	1	.4	.4	98.6
	10	2	.7	.7	99.3
	24	1	.4	.4	99.6
	50	1	.4	.4	100.0
	TOTAL	285	100.0	100.0	



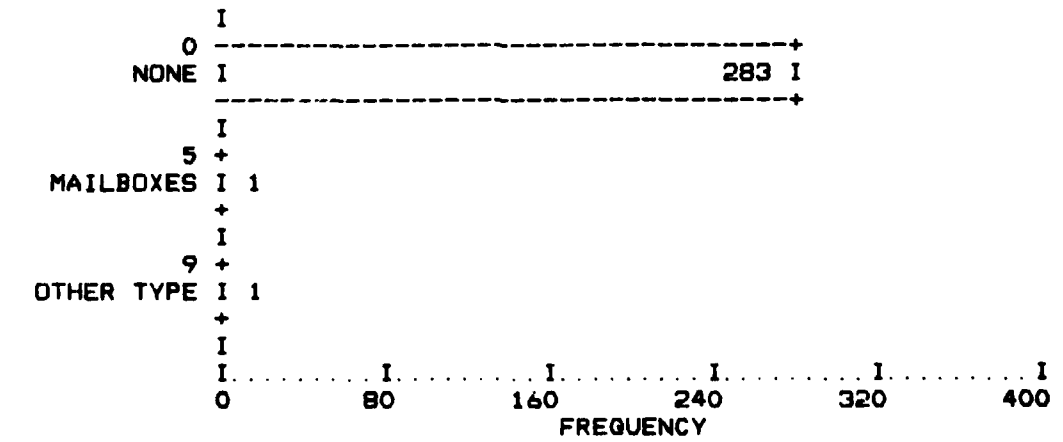
MEAN	.337	STD ERR	.200	MEDIAN	0.0
MODE	0.0	STD DEV	3.382	VARIANCE	11.435
KURTOSIS	173.368	S E KURT	1.993	SKEWNESS	12.612
S E SKEW	.144	RANGE	50.000	MINIMUM	0.0
MAXIMUM	50.000	SUM	96.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

ACCESS3 THIRD ACCESS TYPE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	283	99.3	99.3	99.3
MAILBOXES	5	1	.4	.4	99.6
OTHER TYPE	9	1	.4	.4	100.0
	TOTAL	285	100.0	100.0	



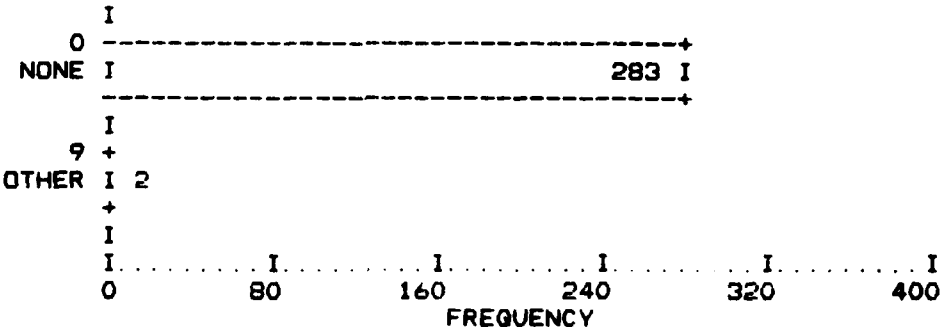
MEAN	.049	STD ERR	.036	MEDIAN	0.0
MODE	0.0	STD DEV	.609	VARIANCE	.371
KURTOSIS	180.561	S E KURT	1.993	SKEWNESS	13.167
S E SKEW	.144	RANGE	9.000	MINIMUM	0.0
MAXIMUM	9.000	SUM	14.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AMAT3 THIRD ACCESS MATERIAL

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	283	99.3	99.3	99.3
OTHER	9	2	.7	.7	100.0
	TOTAL	285	100.0	100.0	



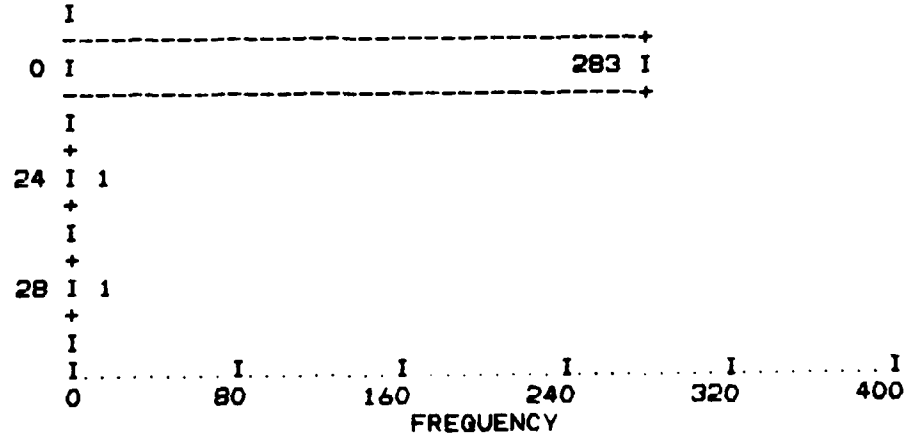
MEAN	.063	STD ERR	.045	MEDIAN	0.0
MODE	0.0	STD DEV	.753	VARIANCE	.566
KURTOSIS	139.972	S E KURT	1.993	SKEWNESS	11.874
S E SKEW	.144	RANGE	9.000	MINIMUM	0.0
MAXIMUM	9.000	SUM	18.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AAREA3 THIRD ACCESS AREA

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	283	99.3	99.3	99.3
	24	1	.4	.4	99.6
	28	1	.4	.4	100.0
	TOTAL	285	100.0	100.0	



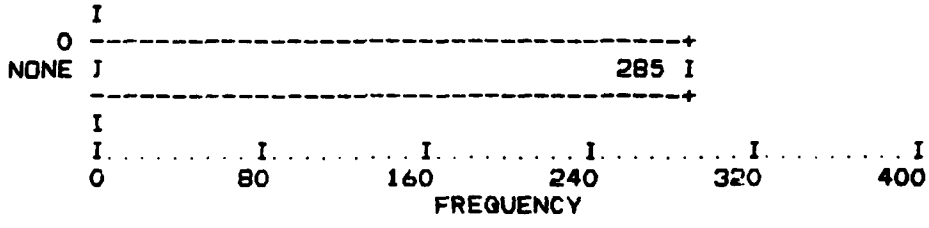
MEAN	.182	STD ERR	.129	MEDIAN	0.0
MODE	0.0	STD DEV	2.181	VARIANCE	4.755
KURTOSIS	143.376	S E KURT	1.993	SKEWNESS	11.980
S E SKEW	.144	RANGE	28.000	MINIMUM	0.0
MAXIMUM	28.000	SUM	52.000		

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

ACCESS4 FOURTH ACCESS TYPE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	285	100.0	100.0	100.0
	TOTAL	285	100.0	100.0	



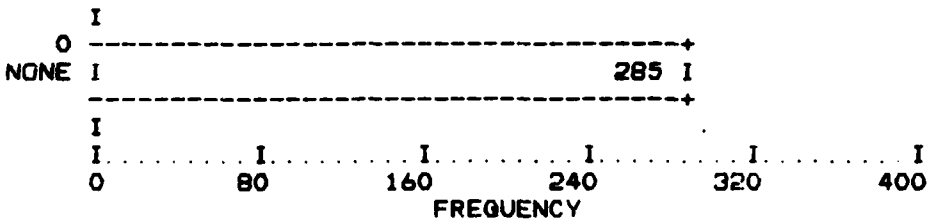
MEAN	0.0	STD ERR	0.0	MEDIAN	0.0
MODE	0.0	STD DEV	0.0	VARIANCE	0.0
RANGE	0.0	MINIMUM	0.0	MAXIMUM	0.0
SUM	0.0				

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AMAT4 FOURTH ACCESS MATERIAL

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	285	100.0	100.0	100.0
	TOTAL	285	100.0	100.0	



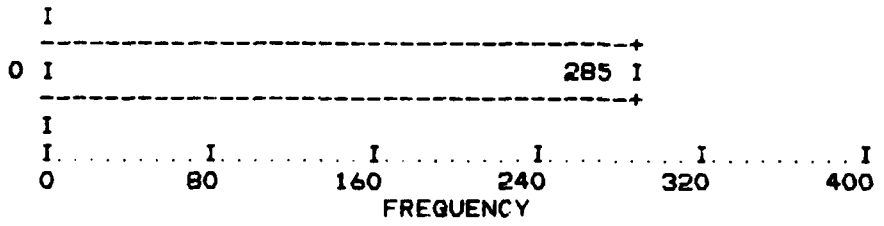
MEAN	0.0	STD ERR	0.0	MEDIAN	0.0
MODE	0.0	STD DEV	0.0	VARIANCE	0.0
RANGE	0.0	MINIMUM	0.0	MAXIMUM	0.0
SUM	0.0				

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AAREA4 FOURTH ACCESS AREA

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	285	100.0	100.0	100.0
	TOTAL	285	100.0	100.0	



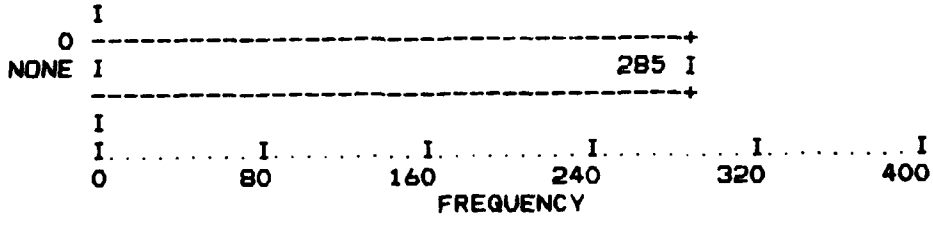
MEAN	0.0	STD ERR	0.0	MEDIAN	0.0
MODE	0.0	STD DEV	0.0	VARIANCE	0.0
RANGE	0.0	MINIMUM	0.0	MAXIMUM	0.0
SUM	0.0				

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

ACCESS5 FIFTH ACCESS TYPE

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	285	100.0	100.0	100.0
	TOTAL	285	100.0	100.0	



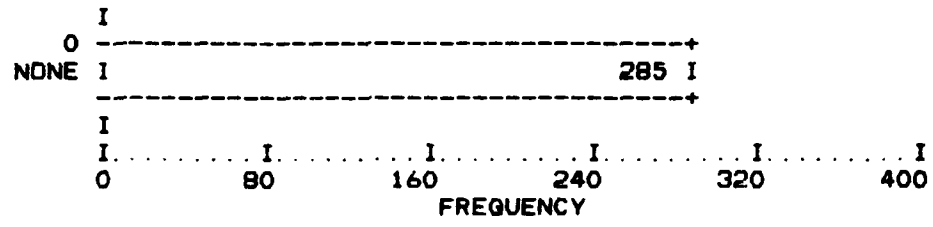
MEAN	0.0	STD ERR	0.0	MEDIAN	0.0
MODE	0.0	STD DEV	0.0	VARIANCE	0.0
RANGE	0.0	MINIMUM	0.0	MAXIMUM	0.0
SUM	0.0				

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AMAT5 FIFTH ACCESS MATERIAL

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
NONE	0	285	100.0	100.0	100.0
	TOTAL	285	100.0	100.0	



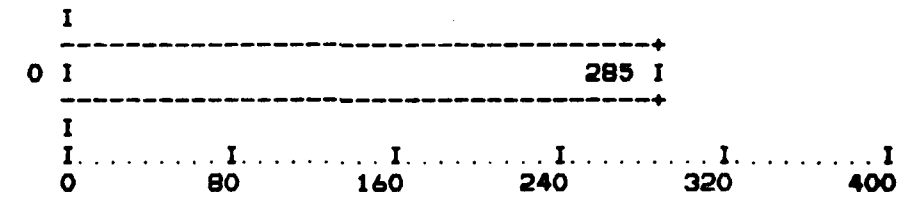
MEAN	0.0	STD ERR	0.0	MEDIAN	0.0
MODE	0.0	STD DEV	0.0	VARIANCE	0.0
RANGE	0.0	MINIMUM	0.0	MAXIMUM	0.0
SUM	0.0				

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

AAREA5 FIFTH ACCESS AREA

VALUE LABEL	VALUE	FREQUENCY	PERCENT	VALID PERCENT	CUM PERCENT
	0	285	100.0	100.0	100.0
	TOTAL	285	100.0	100.0	



MEAN	0.0	STD ERR	0.0	MEDIAN	0.0
MODE	0.0	STD DEV	0.0	VARIANCE	0.0
RANGE	0.0	MINIMUM	0.0	MAXIMUM	0.0
SUM	0.0				

PERCENTILE	VALUE	PERCENTILE	VALUE	PERCENTILE	VALUE
10.00	0.0	25.00	0.0	33.30	0.0
50.00	0.0	66.70	0.0	75.00	0.0
90.00	0.0				

VALID CASES 285 MISSING CASES 0

END